



Stepper Motors – Integrated Steppers

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LMD57 NEMA 23

LM57 NEMA 23 with

- Pulse/Direction
- Motion Control (RS422/485)
- CANopen
- Ethernet (MCode OS, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/lmd57-nema-23/>



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LM57 NEMA 23 CANopen IP20

Compact integrated motor with CANopen CiA301 and CiA402. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 23 (57 mm) Holding Torque range: 103 ... 242 oz-in (73 ... 171 N-cm) Input voltage: +12 to +60 VDC



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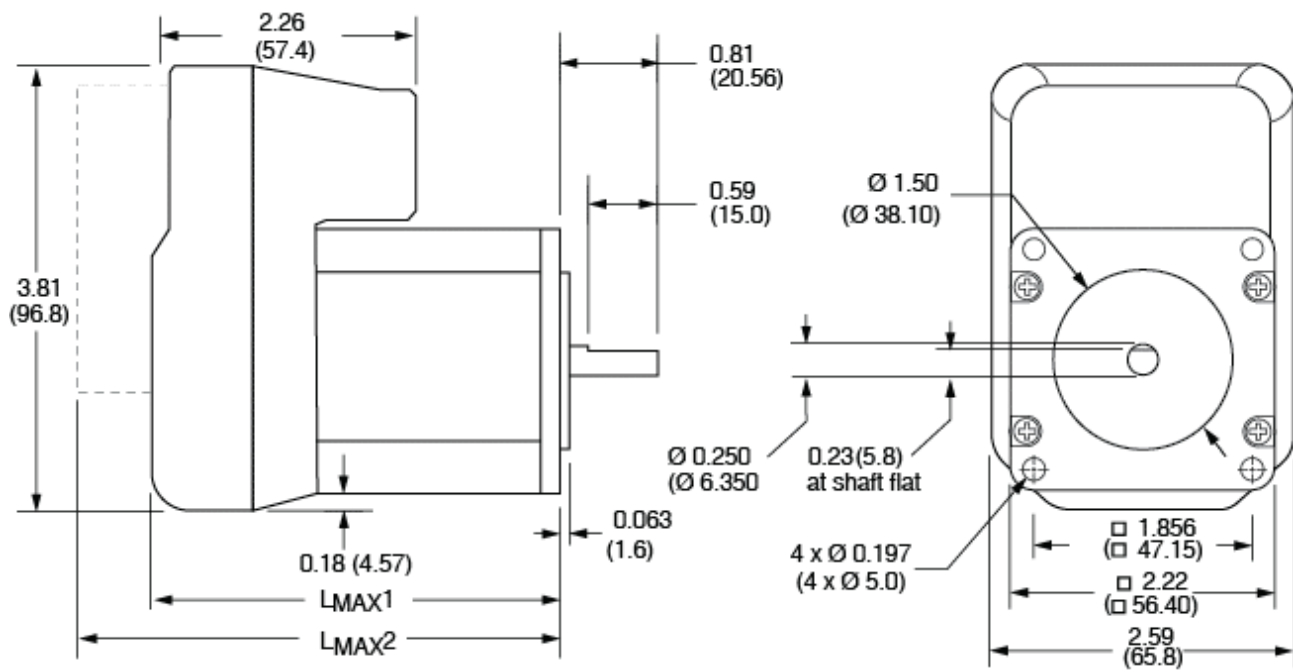
Specification	
Control type	CANopen
Communications interface	CAN Bus 2.0B
Communications features	CANopen DS301, DSP402
NEMA size	23 (57x57 mm)
Torque range	0,73 ... 3,00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +60 +VDC
Power supply current requirement	3.5 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Absolute encoder: data retention on internal power	days	max. 30	
Absolute encoder: data retention on internal power with battery pack	5	years	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications				
Value	-			
CANopen application layer	DS301: CANopen application layer and communication profile			
CANopen profile	DSP402: CANopen device profile for drives and motion control			
CANopen connectivity	DR303-1: Cabling and connector pin assignment			
CANopen commissioning	DS305: CANopen layer setting services (LSS) and protocols			
Parameter storage	Setup storable to NVM			
Transmit PDOs	4 dynamically mappable			
Receive PDOs	4 dynamically mappable			
Manufacturer specific objects	I/O Configuration	Run/Hold Current		
Modes of operation	Profile Position	Homing Mode	Profile Velocity	Profile Torque1
	Cyclic Synchronous Position			
Input functions	General purpose	home	limit	
Output functions	General purpose		braking	



LM57 NEMA 23 CANopen IP65

Compact integrated motor with CANopen CiA301 and CiA402. Feedback options include open loop, closed loop or absolute encoder with hMTtechnology. Motor size: NEMA 23 (57 mm) Holding Torque range: 103 ... 242 oz-in (73 ... 171 N-cm) Input voltage: +12 to +60 VDC



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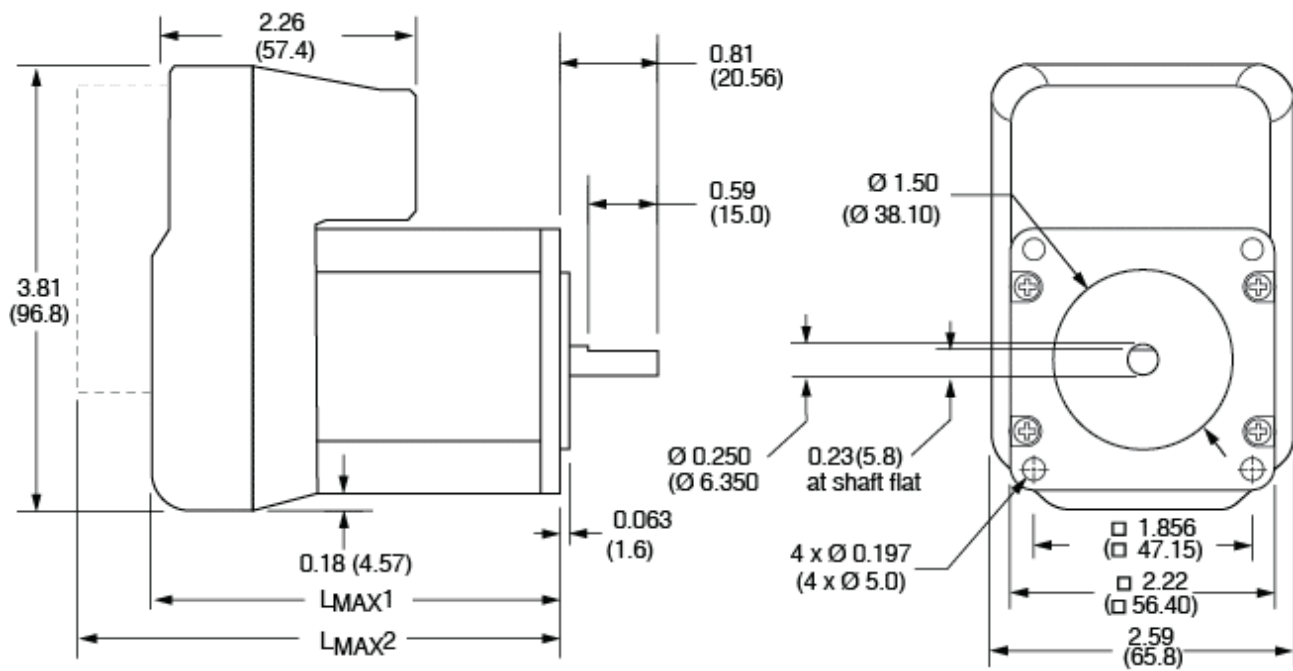


Specification	
Control type	CANopen
Communications interface	CAN Bus 2.0B
Communications features	CANopen DS301, DSP402
NEMA size	23 (57x57 mm)
Torque range	0,73 ... 3,00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +60 +VDC
Power supply current requirement	3.5 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max
Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Absolute encoder: data retention on internal power	days	max. 30	
Absolute encoder: data retention on internal power with battery pack	5	years	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications				
Value	-			
CANopen application layer	DS301: CANopen application layer and communication profile			
CANopen profile	DSP402: CANopen device profile for drives and motion control			
CANopen connectivity	DR303-1: Cabling and connector pin assignment			
CANopen commisioning	DS305: CANopen layer setting services (LSS) and protocols			
Parameter storage	Setup storable to NVM			
Transmit PDOs	4 dynamically mappable			
Receive PDOs	4 dynamically mappable			
Manufacturer specific objects	I/O Configuration		Run/Hold Current	
Modes of operation	Profile Position	Homing Mode	Profile Velocity	Profile Torque1
	Cyclic Synchronous Position			
Input functions	General purpose		home	limit
Output functions	General purpose		braking	



LM57 NEMA 23 Ethernet TCP/IP IP20

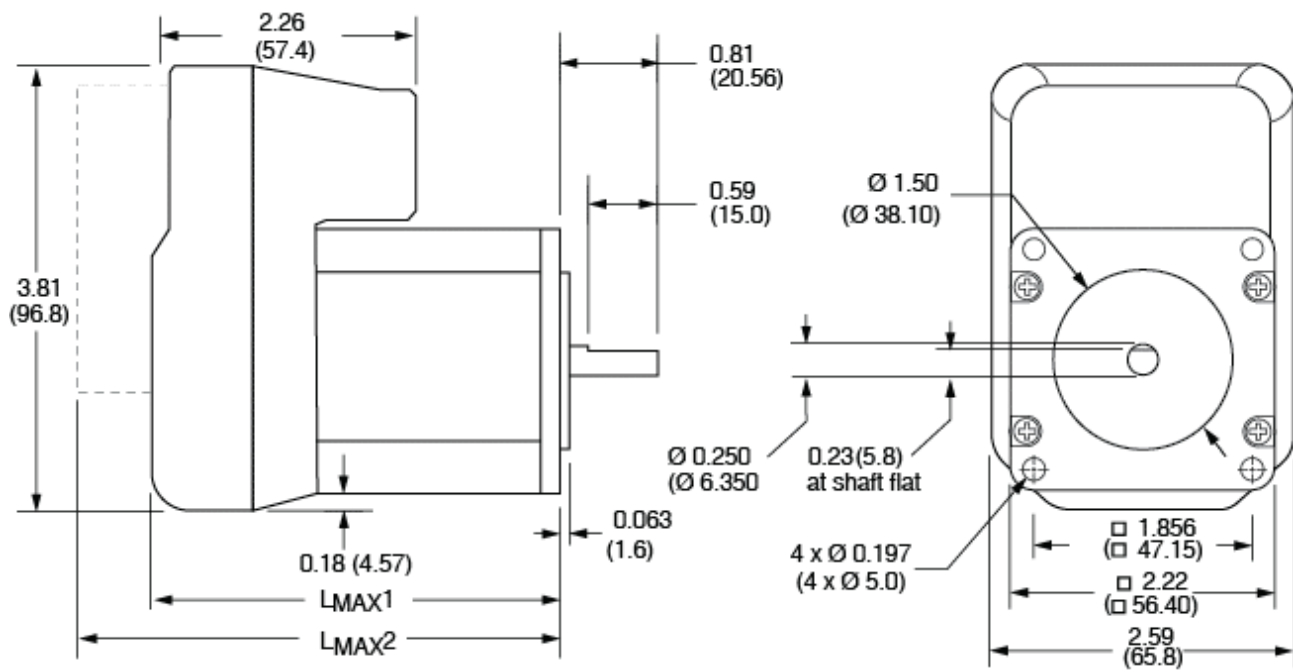
Compact integrated motor for industrial networks with EtherNet/IP, Profinet and Modbus.
Feedback options include open loop, closed loop or absolute encoder with hMTechnology.
Motor size: NEMA 23 (57 mm) Holding Torque range: 103 ... 242 oz-in (73 ... 171 N-cm)
Input voltage: +12 to +60 VDC



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Specification	
Control type	Ethernet TCP/IP
Communications interface	Ethernet TCP/IP
Communications features	EtherNet/IP, Modbus/TCP, Profinet I/O, MCode OS
NEMA size	23 (57x57 mm)
Torque range	0,73 ... 3,00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +60 +VDC
Power supply current requirement	3.5 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max



LM57 NEMA 23 Ethernet TCP/IP IP65

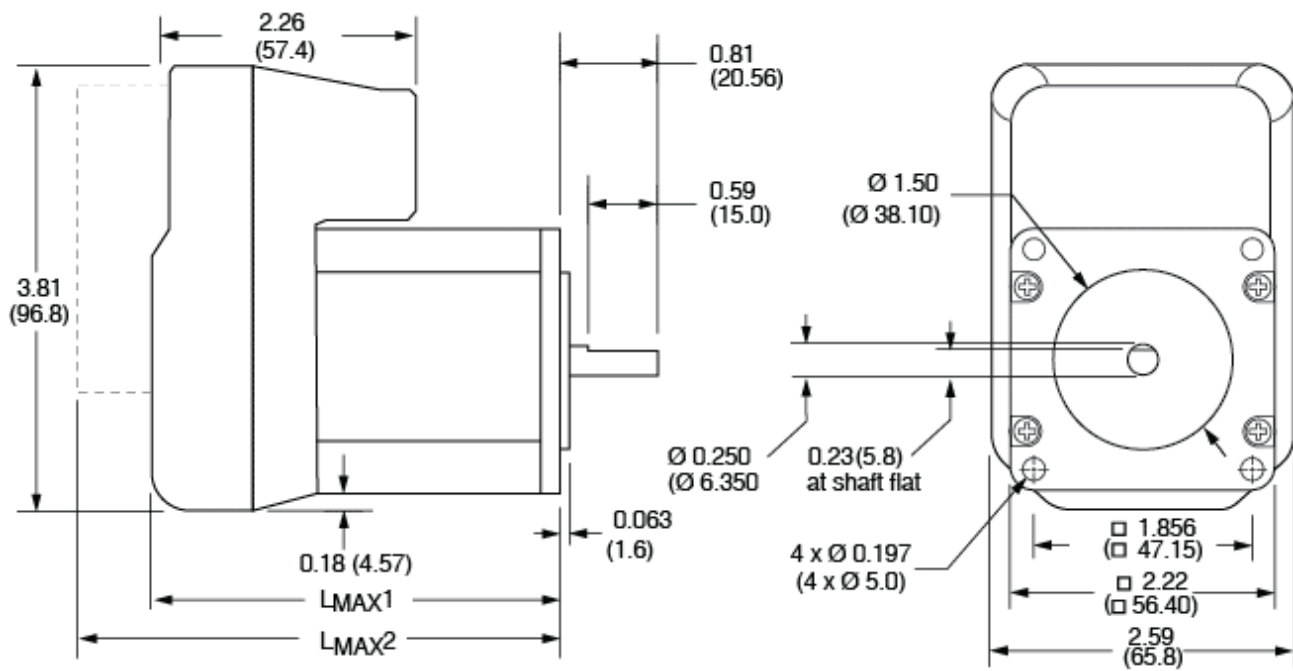
Compact integrated motor for industrial networks with EtherNet/IP, Profinet and Modbus. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 23 (57 mm) Holding Torque range: 103 ... 242 oz-in (73 ... 171 N-cm) Input voltage: +12 to +60 VDC



<https://www.kocomotion.de/produkt/lm57-nema-23-ethernet-tcp-ip-ip65/>



Specification	
Control type	Ethernet TCP/IP
Communications interface	Ethernet TCP/IP
Communications features	EtherNet/IP, Modbus/TCP, Profinet I/O, MCode OS
NEMA size	23 (57x57 mm)
Torque range	0,73 ... 3,00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +60 +VDC
Power supply current requirement	3.5 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max



LM57 NEMA 23 Programmable Motion Control IP20

Compact programmable integrated motor with RS-422/485 communications interface.
Feedback options include open loop, closed loop or absolute encoder with hMTechnology.
Motor size: NEMA 23 (57 mm) Holding Torque range: 103 ... 242 oz-in (73 ... 171 N-cm)
Input voltage: +12 to +60 VDC

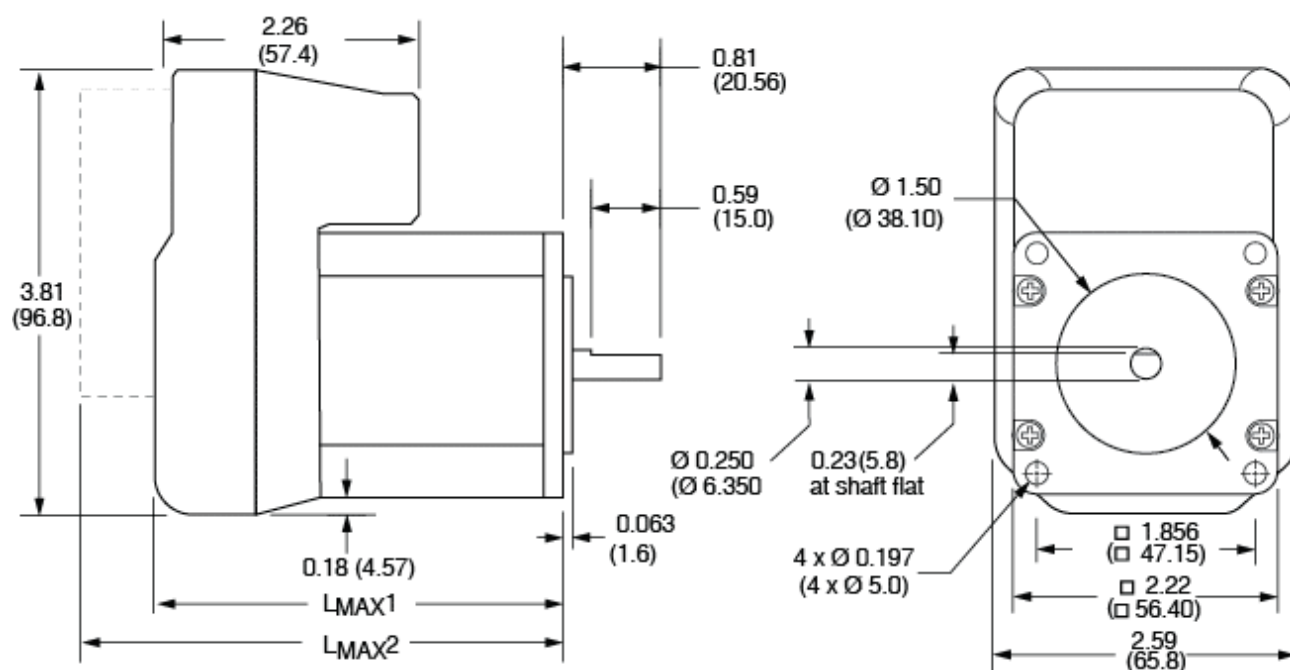

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Specification	
Control type	Programmable Motion
Communications interface	RS-422/485
Communications features	MCode OS
NEMA size	23 (57x57 mm)
Torque range	0,73 ... 3,00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10^9 steps/sec2
Accel/Decel resolution	90.9 steps/sec2

I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None

Closed Loop / Absolute Encoder											
Value				-							
Encoder type				Internal		magnetic					
Encoder resolution				Lines / Edges		1000 / 4000					
Absolute encoder: data retention on internal power				days		max. 30					
Absolute encoder: data retention on internal power with battery pack				5		years					
Counter resolution				32		bit					
hMTechnology OFF, encoder ON			Position maintenance			find index		stall detect			
hMTechnology ON, encoder OFF			Anti-stall		variable current control			torque mode			
Software Specifications											
Value				-							
MCode OS program storage				Type Flash							
MCode OS program storage				11,120 Bytes							
Multidrop addresses				62							
User registers (Integer)				4							
User registers (Floating point)				8							
User registers Length				32 bits							
Math				+	-	x	÷	>	=	=	>=
Logic				AND		OR		XOR		NOT	
Trigonometric		ABS	COS	ACOS	LOG2	LOG10	PI	SIN	ASIN	SQRT	
					TAN	ATAN					
Branch functions				Branch & call							
Input functions		Home	limit plus	limit minus		go	stop	pause	jog plus		
			jog minus	general purpose		capture					
Output functions		Moving	error	velocity change		stall	locked rotor		moving position		
		hMT active	make-up active		encoder A		encoder B		trip		
				attention. general purpose,							
Trip functions		Trip on input		trip on position		trip on time		trip capture			
		trip on relative position		trip on main power loss							
Encoder functions1		hMTechnology		stall detection		position maintenance		find index			



LM57 NEMA 23 Programmable Motion Control IP65

Compact programmable integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 23 (57 mm) Holding Torque range: 103 ... 242 oz-in (73 ... 171 N-cm) Input voltage: +12 to +60 VDC



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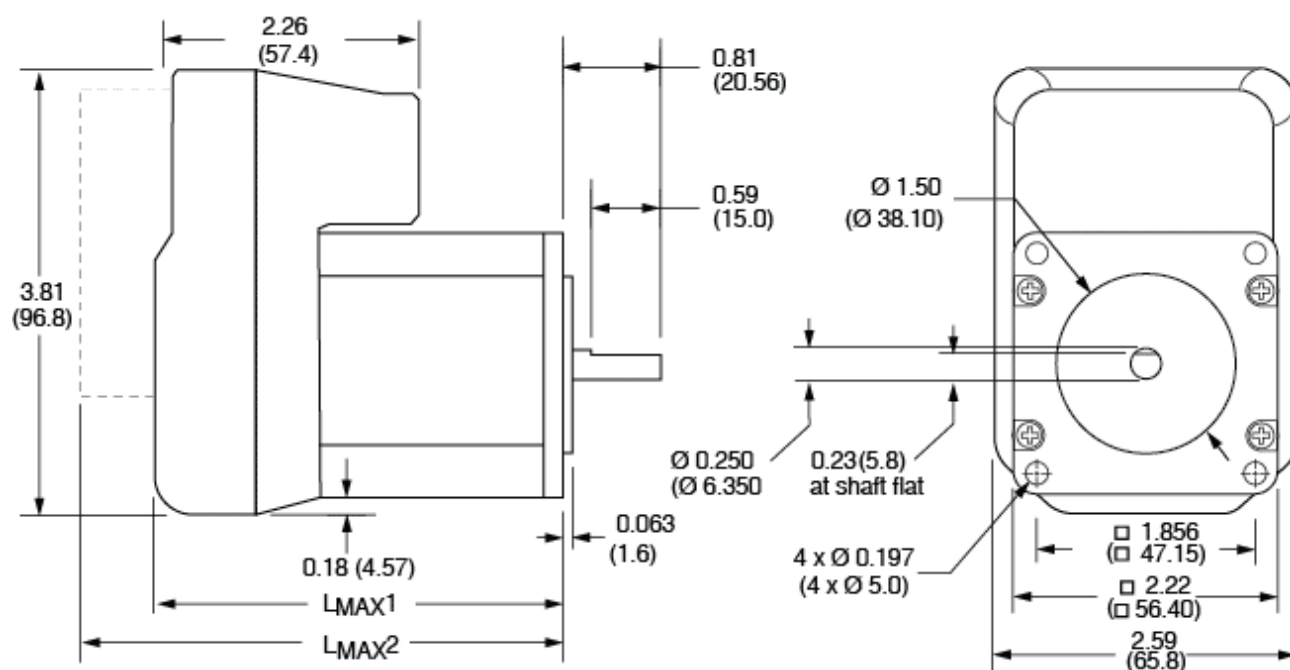


Specification	
Control type	Programmable Motion
Communications interface	RS-422/485
Communications features	MCode OS
NEMA size	23 (57x57 mm)
Torque range	0,73 ...3,00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None

Closed Loop / Absolute Encoder											
Value				-							
Encoder type				Internal		magnetic					
Encoder resolution				Lines / Edges		1000 / 4000					
Absolute encoder: data retention on internal power				days		max. 30					
Absolute encoder: data retention on internal power with battery pack				5		years					
Counter resolution				32		bit					
hMTechnology OFF, encoder ON			Position maintenance			find index		stall detect			
hMTechnology ON, encoder OFF			Anti-stall		variable current control			torque mode			
Software Specifications											
Value				-							
MCode OS program storage				Type Flash							
MCode OS program storage				11,120 Bytes							
Multidrop addresses				62							
User registers (Integer)				4							
User registers (Floating point)				8							
User registers Length				32 bits							
Math				+	-	x	÷	>	=	=	>=
Logic				AND		OR		XOR		NOT	
Trigonometric		ABS	COS	ACOS	LOG2	LOG10	PI	SIN	ASIN	SQRT	
					TAN	ATAN					
Branch functions				Branch & call							
Input functions		Home	limit plus	limit minus	go	stop	pause	jog plus			
			jog minus	general purpose	capture						
Output functions		Moving	error	velocity change	stall	locked rotor	moving position				
		hMT active	make-up active	encoder A	encoder B	trip					
		attention. general purpose,									
Trip functions		Trip on input	trip on position	trip on time	trip capture						
		trip on relative position	trip on main power loss								
Encoder functions1		hMTechnology	stall detection	position maintenance	find index						



LM57 NEMA 23 Pulse/direction IP20



Compact integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 23 (57 mm) Holding Torque range: 103 ... 242 oz-in (73 ... 171 N-cm) Input voltage: +12 to +60 VDC


<https://www.kocomotion.de/produkt/lm57-nema-23-pulse-direction-ip20/>

Specification	
Control type	Pulse/direction input
Communications interface	RS-422/485
Communications features	Configuration Interface (MCode OS)
NEMA size	23 (57x57 mm)
Torque range	0,73... 3,00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +60 +VDC
Power supply current requirement	3.5 A

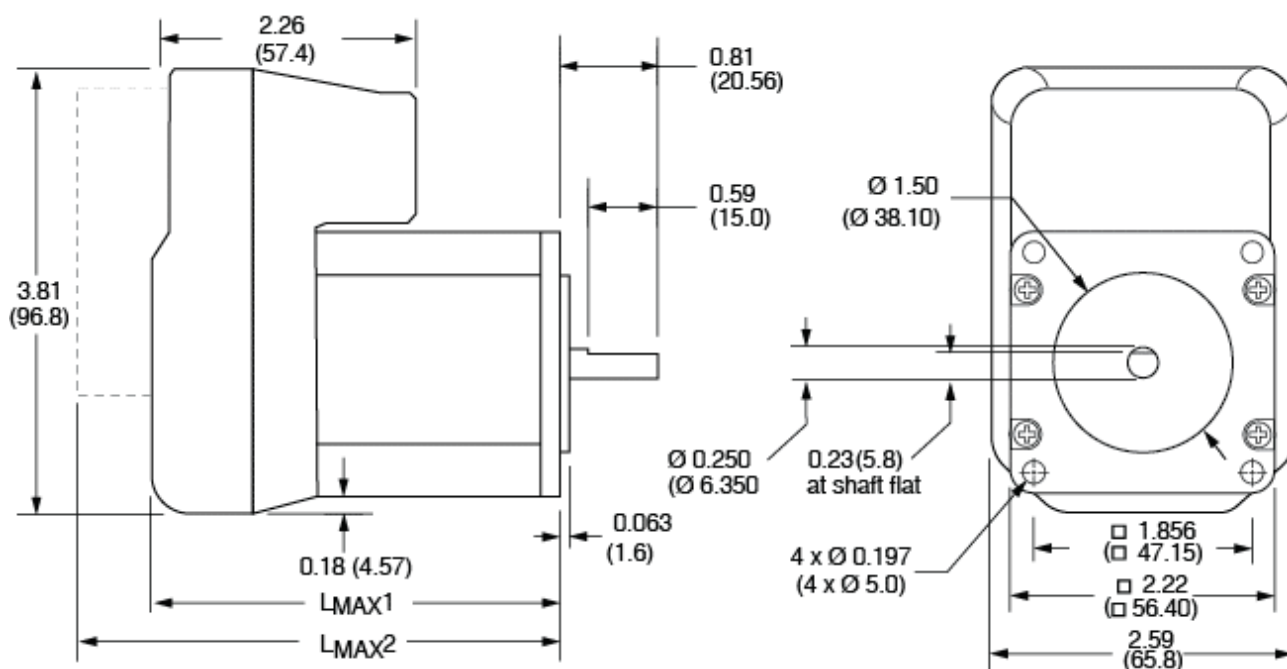
Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10^9 steps/sec2
Accel/Decel resolution	90.9 steps/sec2

I/O Specifications	
I/O functions	Logic and I/O
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency pulse (step)	2.56 MHz
Signal input frequency quadrature	1.25 MHz
Signal input frequency enable	5 MHz (max.)
Signal input isolation	Galvanic
Signal input protection class	III
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications

Value	-			
Microstep resolution	[steps/rev]	200 ... 51200		
Run current	[%]	1 ... 100		
Holding current	[%]	0 ... 100		
Hold current delay	[mSec]	0 ... 65535		
Clock modes	Step/dir	Quadrature	CW/CCW	
Motion input filter	[kHz ... MHz]	38.8 ... 10		
Enable input	Active state/filter			
Advanced operating modes	Pulse/direction	Speed Control	Commanded Velocity,Torque Control	
Advanced parameters	Common	RS-422/485		
Advanced parameters	Mode specific	I/O	Motion,Analog input	velocity
hMT modes	hMT OFF	fixed current	Variable current	Torque
Operation	Make-up position,Torque %			



LM57 NEMA 23 Pulse/direction IP65

Compact integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 23 (57 mm) Holding Torque range: 103 ... 242 oz-in (73 ... 171 N-cm) Input voltage: +12 to +60 VDC



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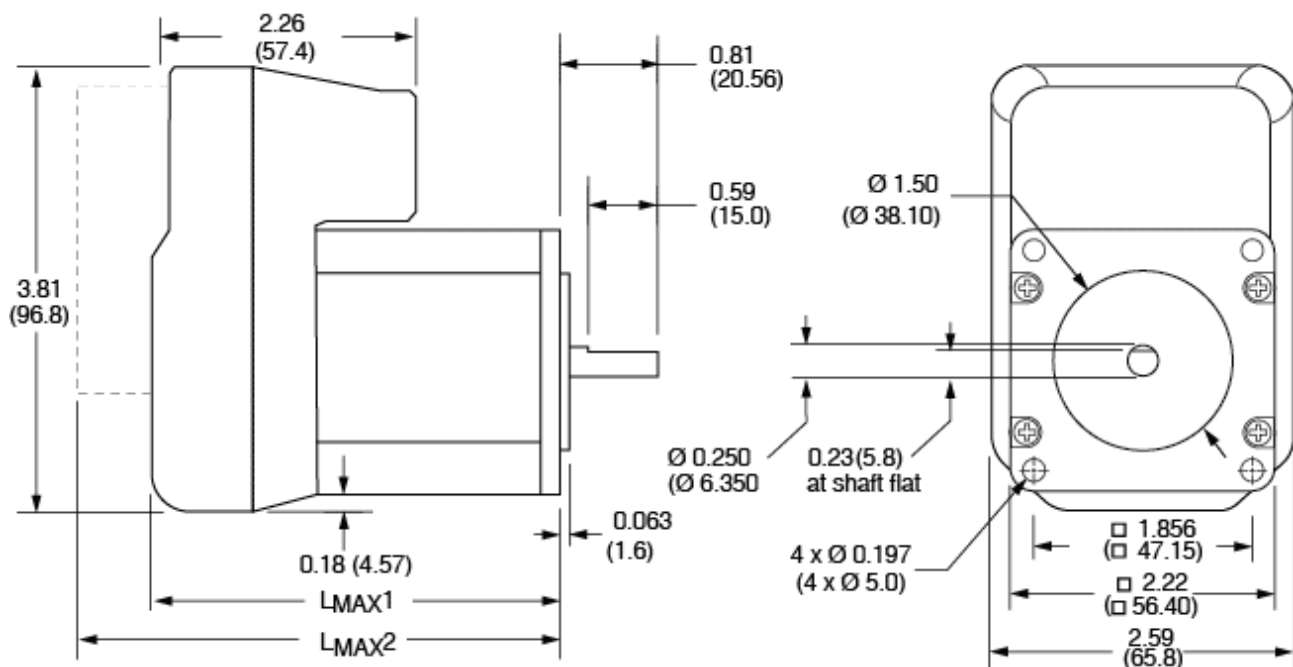
Specification	
Control type	Pulse/direction input
Communications interface	RS-422/485
Communications features	Configuration Interface (MCode OS)
NEMA size	23 (57x57 mm)
Torque range	0,73... 3,00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +60 +VDC
Power supply current requirement	3.5 A

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10^9 steps/sec2
Accel/Decel resolution	90.9 steps/sec2

I/O Specifications	
I/O functions	Logic and I/O
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency pulse (step)	2.56 MHz
Signal input frequency quadrature	1.25 MHz
Signal input frequency enable	5 MHz (max.)
Signal input isolation	Galvanic
Signal input protection class	III
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications				
Value		-		
Microstep resolution	[steps/rev]	200 ... 51200		
Run current	[%]	1 ... 100		
Holding current	[%]	0 ... 100		
Hold current delay	[mSec]	0 ... 65535		
Clock modes	Step/dir	Quadrature	CW/CCW	
Motion input filter	[kHz ... MHz]	38.8 ... 10		
Enable input	Active state/filter			
Advanced operating modes	Pulse/direction	Speed Control	Commanded Velocity,Torque Control	
Advanced parameters	Common	RS-422/485		
Advanced parameters	Mode specific	I/O	Motion,Analog input	velocity
hMT modes	hMT OFF	fixed current	Variable current	Torque
Operation	Make-up position,Torque %			



LMD85 NEMA 34

LM85 NEMA 34 with

- Pulse/Direction
- Motion Control (RS422/485)
- CANopen
- Ethernet (MCode OS, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/lmd85-nema-34/>



Produkte:	Seite
LM85 NEMA 34 CANopen IP20	34
LM85 NEMA 34 CANopen IP65	38
LM85 NEMA 34 Ethernet TCP/IP IP20	42
LM85 NEMA 34 Ethernet TCP/IP IP65	48
LM85 NEMA 34 Programmable Motion Control IP20	54
LM85 NEMA 34 Programmable Motion Control IP65	58
LM85 NEMA 34 Pulse/direction IP20	62
LM85 NEMA 34 Pulse/direction IP65	65

LM85 NEMA 34 CANopen IP20

Compact integrated motor with CANopen CiA301 and CiA402. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 34 (85 mm) Holding Torque range: 336 ... 920 oz-in (237 ... 650 N-cm) Input voltage: +12 to +70 VDC



<https://www.kocomotion.de/produkt/lm85-nema-34-canopen-ip20/>



Specification

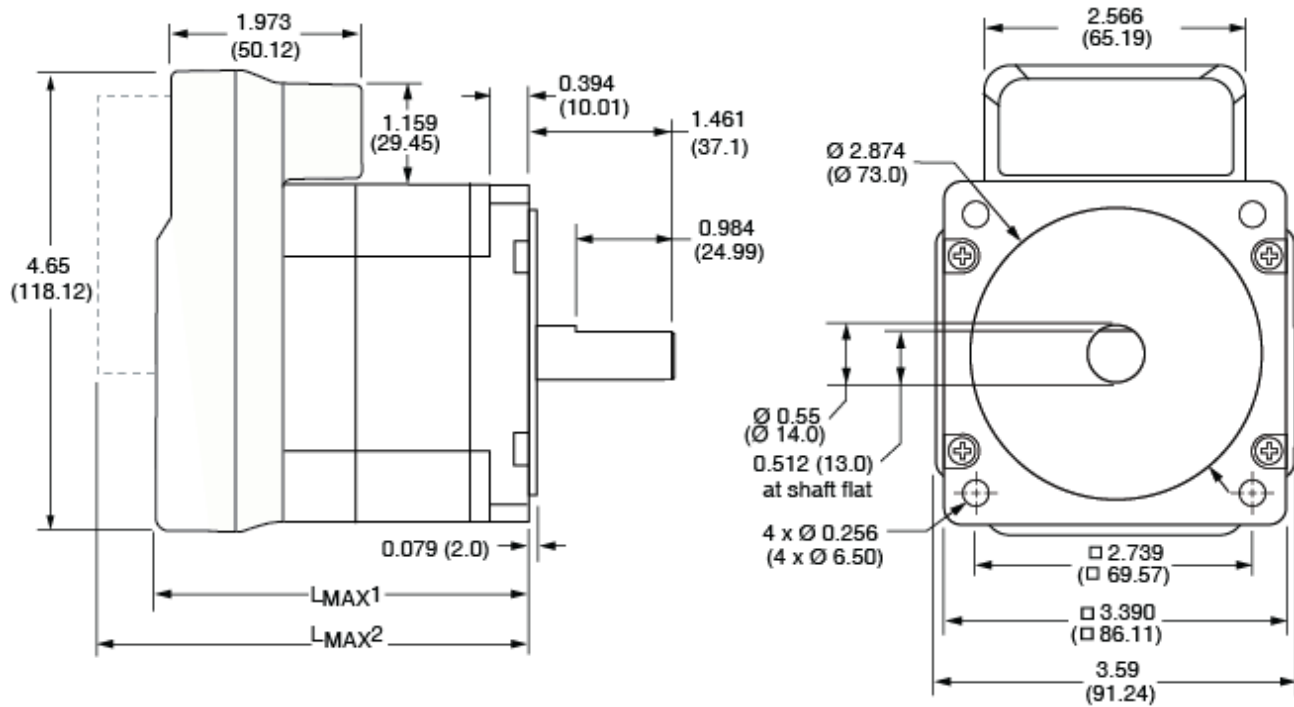
Control type	CANopen
Communications interface	CAN Bus 2.0B
Communications features	CANopen DS301, DSP402
NEMA size	34 (85x85 mm)
Torque range	2,37 ... 6,50 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +70 +VDC
Power supply current requirement	4.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-logic Supply Current	194 mA max

Parameter settings

Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None

Closed Loop / Absolute Encoder				
Value		-		
Encoder type		Internal	magnetic	
Encoder resolution		Lines / Edges	1000 / 4000	
Absolute encoder: data retention on internal power		days	max. 30	
Absolute encoder: data retention on internal power with battery pack		5	years	
Counter resolution		32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect	
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode	
Software Specifications				
Value		-		
CANopen application layer	DS301: CANopen application layer and communication profile			
CANopen profile	DSP402: CANopen device profile for drives and motion control			
CANopen connectivity	DR303-1: Cabling and connector pin assignment			
CANopen commisioning	DS305: CANopen layer setting services (LSS) and protocols			
Parameter storage		Setup storable to NVM		
Transmit PDOs		4 dynamically mappable		
Receive PDOs		4 dynamically mappable		
Manufacturer specific objects		I/O Configuration	Run/Hold Current	
Modes of operation	Profile Position	Homing Mode	Profile Velocity	Profile Torque1
	Cyclic Synchronous Position			
Input functions		General purpose	home	limit
Output functions		General purpose	braking	



LM85 NEMA 34 CANopen IP65

Compact integrated motor with CANopen CiA301 and CiA402. Feedback options include open loop, closed loop or absolute encoder with hMT technology. Motor size: NEMA 34 (85 mm) Holding Torque range: 336 ... 920 oz-in (237 ... 650 N-cm) Input voltage: +12 to +70 VDC



<https://www.kocomotion.de/produkt/lm85-nema-34-canopen-ip65/>



Specification

Control type	CANopen
Communications interface	CAN Bus 2.0B
Communications features	CANopen DS301, DSP402
NEMA size	34 (85x85 mm)
Torque range	2,37 ... 6,50 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +70 +VDC
Power supply current requirement	4.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

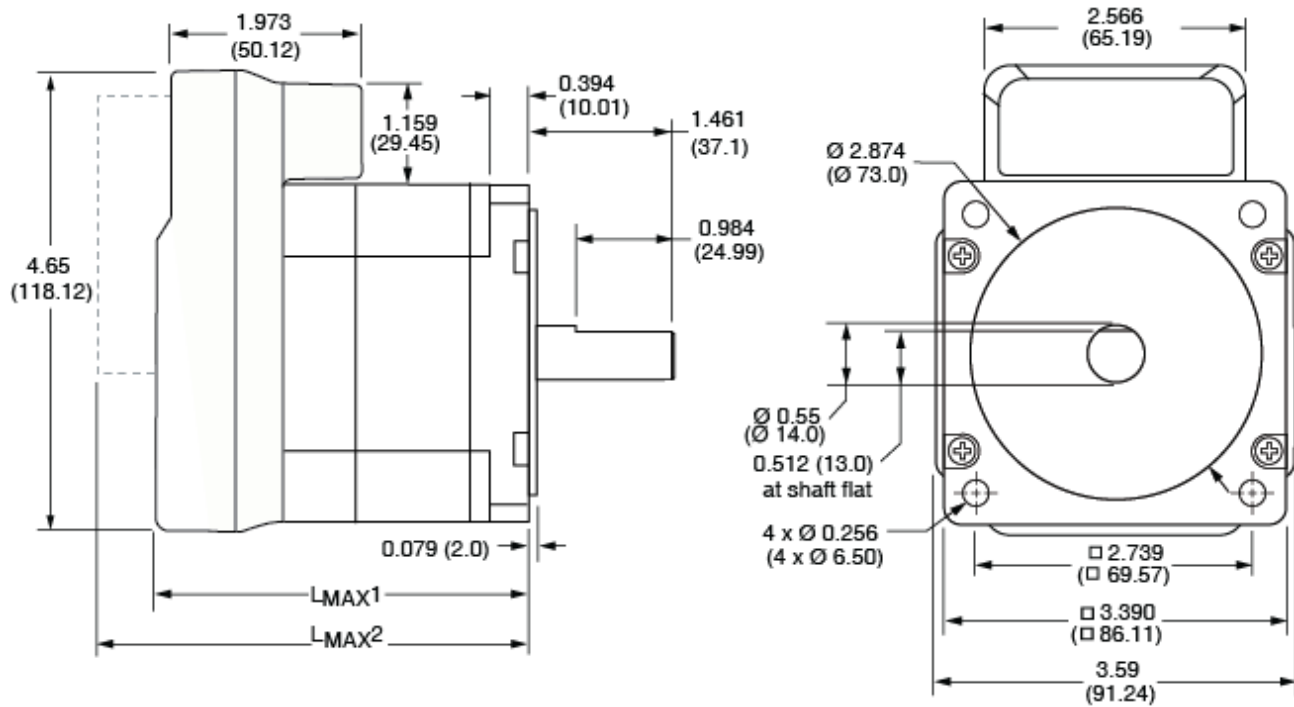
Parameter settings

Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Absolute encoder: data retention on internal power	days	max. 30	
Absolute encoder: data retention on internal power with battery pack	5	years	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications				
Value	-			
CANopen application layer	DS301: CANopen application layer and communication profile			
CANopen profile	DSP402: CANopen device profile for drives and motion control			
CANopen connectivity	DR303-1: Cabling and connector pin assignment			
CANopen commisioning	DS305: CANopen layer setting services (LSS) and protocols			
Parameter storage	Setup storable to NVM			
Transmit PDOs	4 dynamically mappable			
Receive PDOs	4 dynamically mappable			
Manufacturer specific objects	I/O Configuration	Run/Hold Current		
Modes of operation	Profile Position	Homing Mode	Profile Velocity	Profile Torque1
	Cyclic Synchronous Position			
Input functions	General purpose	home	limit	
Output functions	General purpose	braking		



LM85 NEMA 34 Ethernet TCP/IP IP20

Compact integrated motor for industrial networks with EtherNet/IP, Profinet and Modbus. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 34 (85 mm) Holding Torque range: 336 ... 920 oz-in (237 ... 650 N-cm) Input voltage: +12 to +70 VDC



<https://www.kocomotion.de/produkt/lm85-nema-34-ethernet-tcp-ip-ip20/>



Specification	
Control type	Ethernet TCP/IP
Communications interface	Ethernet TCP/IP
Communications features	EtherNet/IP, Modbus/TCP, Profinet I/O, MCode OS
NEMA size	34 (85x85 mm)
Torque range	2,37 ... 6,50 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +70 +VDC
Power supply current requirement	4.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

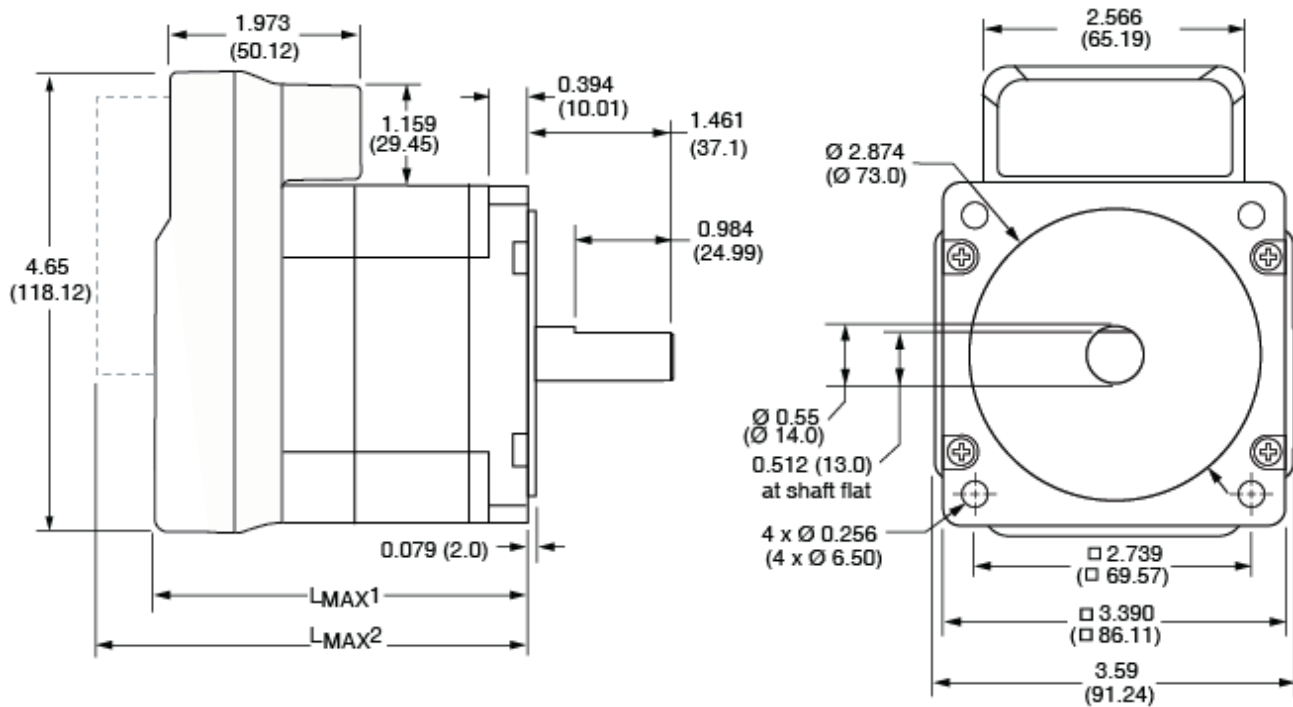
Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²
I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Power outputs opoen or closed loop number	2

I/O Specifications	
Power outputs absolute encoder number	1
Power outputs voltage rating	-24 ... +24 +VDC
Power outputs current rating	-100 ... +100 mA
Power outputs protection	over temp, short circuit, transient, over voltage, inductive clamp
Power outputs isolation	Galvanic

Closed Loop / Absolute Encoder											
Value				-							
Encoder type				Internal		magnetic					
Encoder resolution				Lines / Edges		1000 / 4000					
Absolute encoder: data retention on internal power				days		max. 30					
Absolute encoder: data retention on internal power with battery pack				5		years					
Counter resolution				32		bit					
hMTechnology OFF, encoder ON			Position maintenance			find index		stall detect			
hMTechnology ON, encoder OFF			Anti-stall		variable current control			torque mode			
Software Specifications											
Value				-							
MCode OS program storage				Type Flash							
MCode OS program storage				11,120 Bytes							
Multidrop addresses				62							
User registers (Integer)				4							
User registers (Floating point)				8							
User registers Length				32 bits							
Logic				AND		OR		XOR		NOT	
Trigonometric			ABS	COS	ACOS	LOG2	LOG10	PI	SIN	ASIN	SQRT
						TAN	ATAN				
Branch functions				Branch & call							
Input functions			Home	limit plus	limit minus	go	stop	pause	jog plus		
				jog minus	general purpose	capture					
Output functions			Moving	error	velocity change	stall	locked rotor	moving position			
			hMT active	make-up active	encoder A	encoder B	trip				
			attention. general purpose,								
Trip functions			Trip on input		trip on position		trip on time		trip capture		
			trip on relative position				trip on main power loss				
Encoder functions1			hMTechnology		stall detection		position maintenance			find index	
EtherNet/IP (ODVA Conformance Checked) Object model				0x01		Identity object					
EtherNet/IP (ODVA Conformance Checked) Object model				0x04		Assembly object (parameters mappable)					

Software Specifications			
EtherNet/IP (ODVA Conformance Checked) Object model	0xF5	TCP object	
EtherNet/IP (ODVA Conformance Checked) Object model	0xF6	Ethernet object	
EtherNet/IP Manufacturer specific object classes	0x64	Setup instructions	
EtherNet/IP Manufacturer specific object classes	0x65	Miscellaneous instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x66	Motion instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x67	I/O instruction variables and flags	
EtherNet/IP Manufacturer specific object classes	0x68	Position related instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x69	Encoder related instructions and flags ¹	
EtherNet/IP Manufacturer specific object classes	0x6A	hMTechnology specific instructions ¹	
Modbus/TCP Device ID	43/14d (0x2B/0x0E)	Read device identification	
Modbus/TCP Public function codes	02d (0x02)	Read digital inputs	
Modbus/TCP Public function codes	01d (0x01)	Read coils (digital outputs)	
Modbus/TCP Public function codes	05d (0x05)	Write single coil (digital output)	
Modbus/TCP Public function codes	03d (0x03)	Read holding register	
Modbus/TCP Public function codes	16d (0x10)	Write multiple registers	
Modbus/TCP Manufacturer specific function codes	65d (0x41)	Read I/O and trip configuration and parameters	
Modbus/TCP Manufacturer specific function codes	66d (0x42)	Write I/O and trip configuration and parameters enter upgrade mode.	
Modbus/TCP Profinet IO	Output	Slot 1	
Modbus/TCP Profinet IO	Size	128 Bytes	
Modbus/TCP Profinet IO	38	Registers	
Modbus/TCP Profinet IO	Input	Slot 2	

Software Specifications			
Modbus/TCP Profinet IO	34	Registers	
Modbus/TCP Profinet IO	Register mapping	Variable	user defined



LM85 NEMA 34 Ethernet TCP/IP IP65

Compact integrated motor for industrial networks with EtherNet/IP, Profinet and Modbus. Feedback options include open loop, closed loop or absolute encoder with hMTechonology. Motor size: NEMA 34 (85 mm) Holding Torque range: 336 ... 920 oz-in (237 ... 650 N-cm) Input voltage: +12 to +70 VDC



<https://www.kocomotion.de/produkt/lm85-nema-34-ethernet-tcp-ip-ip65/>



Specification	
Control type	Ethernet TCP/IP
Communications interface	Ethernet TCP/IP
Communications features	EtherNet/IP, Modbus/TCP, Profinet I/O, MCode OS
NEMA size	34 (85x85 mm)
Torque range	2,37 ... 6,50 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +70 +VDC
Power supply current requirement	4.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²
I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Power outputs opoen or closed loop number	2

I/O Specifications	
Power outputs absolute encoder number	1
Power outputs voltage rating	-24 ... +24 +VDC
Power outputs current rating	-100 ... +100 mA
Power outputs protection	over temp, short circuit, transient, over voltage, inductive clamp
Power outputs isolation	Galvanic

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Absolute encoder: data retention on internal power	days	max. 30	
Absolute encoder: data retention on internal power with battery pack	5	years	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications										
Value	-									
MCode OS program storage	Type Flash									
MCode OS program storage	11,120 Bytes									
Multidrop addresses	62									
User registers (Integer)	4									
User registers (Floating point)	8									
User registers Length	32 bits									
Logic	AND OR XOR NOT									
Trigonometric	ABS	COS	ACOS	LOG2	LOG10	PI	SIN	ASIN	SQRT	
				TAN	ATAN					
Branch functions	Branch & call									
Input functions	Home	limit plus	limit minus	go	stop	pause	jog plus			
		jog minus	general purpose	capture						
Output functions	Moving	error	velocity change	stall	locked rotor	moving position				
	hMT active	make-up active	encoder A	encoder B	trip					
			attention. general purpose,							
Trip functions	Trip on input	trip on position	trip on time	trip capture						
	trip on relative position	trip on main power loss								
Encoder functions1	hMTechnology	stall detection	position maintenance	find index						
EtherNet/IP (ODVA Conformance Checked) Object model	0x01	Identity object								
EtherNet/IP (ODVA Conformance Checked) Object model	0x04	Assembly object (parameters mappable)								

Software Specifications			
EtherNet/IP (ODVA Conformance Checked) Object model	0xF5	TCP object	
EtherNet/IP (ODVA Conformance Checked) Object model	0xF6	Ethernet object	
EtherNet/IP Manufacturer specific object classes	0x64	Setup instructions	
EtherNet/IP Manufacturer specific object classes	0x65	Miscellaneous instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x66	Motion instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x67	I/O instruction variables and flags	
EtherNet/IP Manufacturer specific object classes	0x68	Position related instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x69	Encoder related instructions and flags ¹	
EtherNet/IP Manufacturer specific object classes	0x6A	hMTechnology specific instructions ¹	
Modbus/TCP Device ID	43/14d (0x2B/0x0E)	Read device identification	
Modbus/TCP Public function codes	02d (0x02)	Read digital inputs	
Modbus/TCP Public function codes	01d (0x01)	Read coils (digital outputs)	
Modbus/TCP Public function codes	05d (0x05)	Write single coil (digital output)	
Modbus/TCP Public function codes	03d (0x03)	Read holding register	
Modbus/TCP Public function codes	16d (0x10)	Write multiple registers	
Modbus/TCP Manufacturer specific function codes	65d (0x41)	Read I/O and trip configuration and parameters	
Modbus/TCP Manufacturer specific function codes	66d (0x42)	Write I/O and trip configuration and parameters enter upgrade mode.	
Modbus/TCP Profinet IO	Output	Slot 1	
Modbus/TCP Profinet IO	Size	128 Bytes	
Modbus/TCP Profinet IO	38	Registers	
Modbus/TCP Profinet IO	Input	Slot 2	



Software Specifications

Modbus/TCP Profinet IO	34	Registers	
Modbus/TCP Profinet IO	Register mapping	Variable	user defined

LM85 NEMA 34 Programmable Motion Control IP20

Compact programmable integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 34 (85 mm) Holding Torque range: 336 ... 920 oz-in (237 ... 650 N-cm) Input voltage: +12 to +70 VDC



<https://www.kocomotion.de/produkt/lm85-nema-34-programmable-motion-control-ip20/>



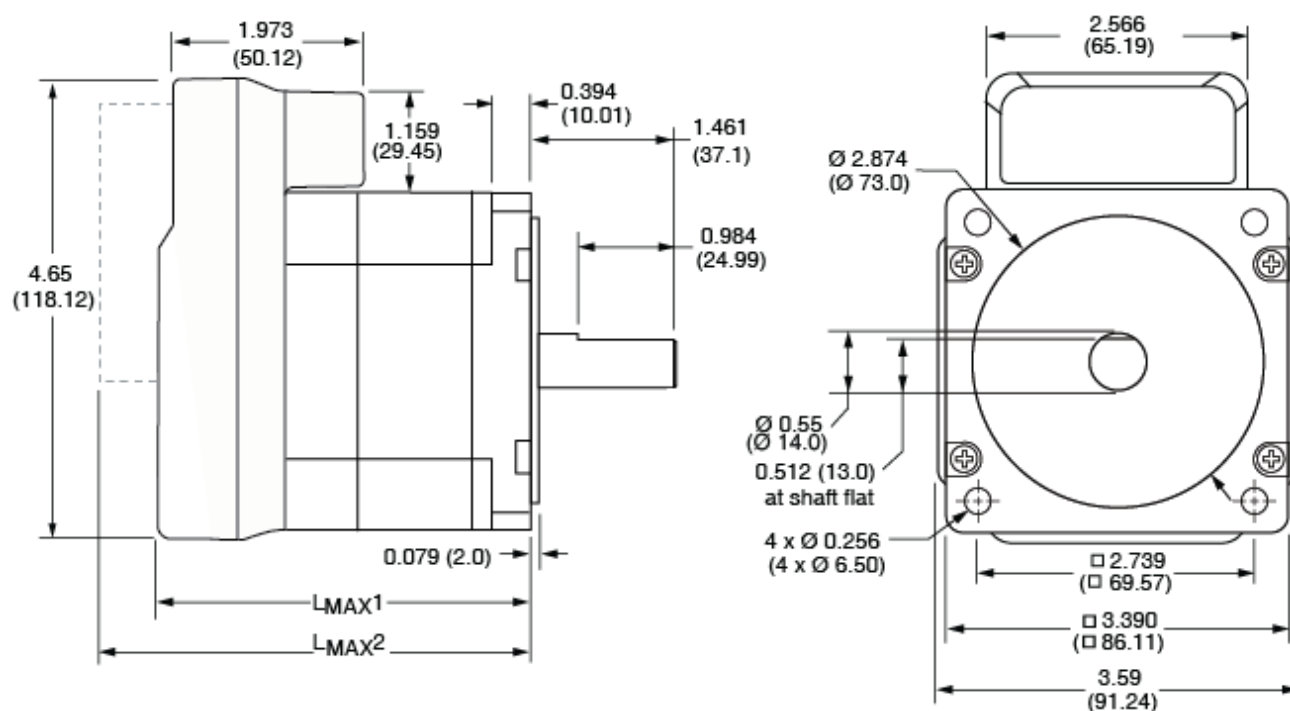
Specification	
Control type	Programmable Motion
Communications interface	RS-422/485
Communications features	MCode OS
NEMA size	34 (85x85 mm)
Torque range	2,37 ... 6,50 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +70 +VDC
Power supply current requirement	4.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²
I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Power outputs opoen or closed loop number	2

I/O Specifications			
Power outputs absolute encoder number	1		
Power outputs voltage rating	-24 ... +24 +VDC		
Power outputs current rating	-100 ... +100 mA		
Power outputs protection	over temp, short circuit, transient, over voltage, inductive clamp		
Power outputs isolation	Galvanic		
Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Absolute encoder: data retention on internal power	days	max. 30	
Absolute encoder: data retention on internal power with battery pack	5	years	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications

Value	-									
MCode OS program storage	Type Flash									
MCode OS program storage	11,120 Bytes									
Multidrop addresses	62									
User registers (Integer)	4									
User registers (Floating point)	8									
User registers Length	32 bits									
Math	+ - x ÷ > = = >=									
Logic	AND OR XOR NOT									
Trigonometric	ABS	COS	ACOS	LOG2	LOG10	PI	SIN	ASIN	SQRT	
				TAN	ATAN					
Branch functions	Branch & call									
Input functions	Home	limit plus	limit minus	go	stop	pause	jog plus			
		jog minus	general purpose	capture						
Output functions	Moving	error	velocity change	stall	locked rotor	moving position				
	HMT active	make-up active	encoder A	encoder B	trip					
			attention. general purpose,							
Trip functions	Trip on input	trip on position	trip on time	trip capture						
	trip on relative position	trip on main power loss								
Encoder functions1	hMTechnology	stall detection	position maintenance	find index						



LM85 NEMA 34 Programmable Motion Control IP65

Compact programmable integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 34 (85 mm) Holding Torque range: 336 ... 920 oz-in (237 ... 650 N-cm) Input voltage: +12 to +70 VDC



<https://www.kocomotion.de/produkt/lm85-nema-34-programmable-motion-control-ip65/>



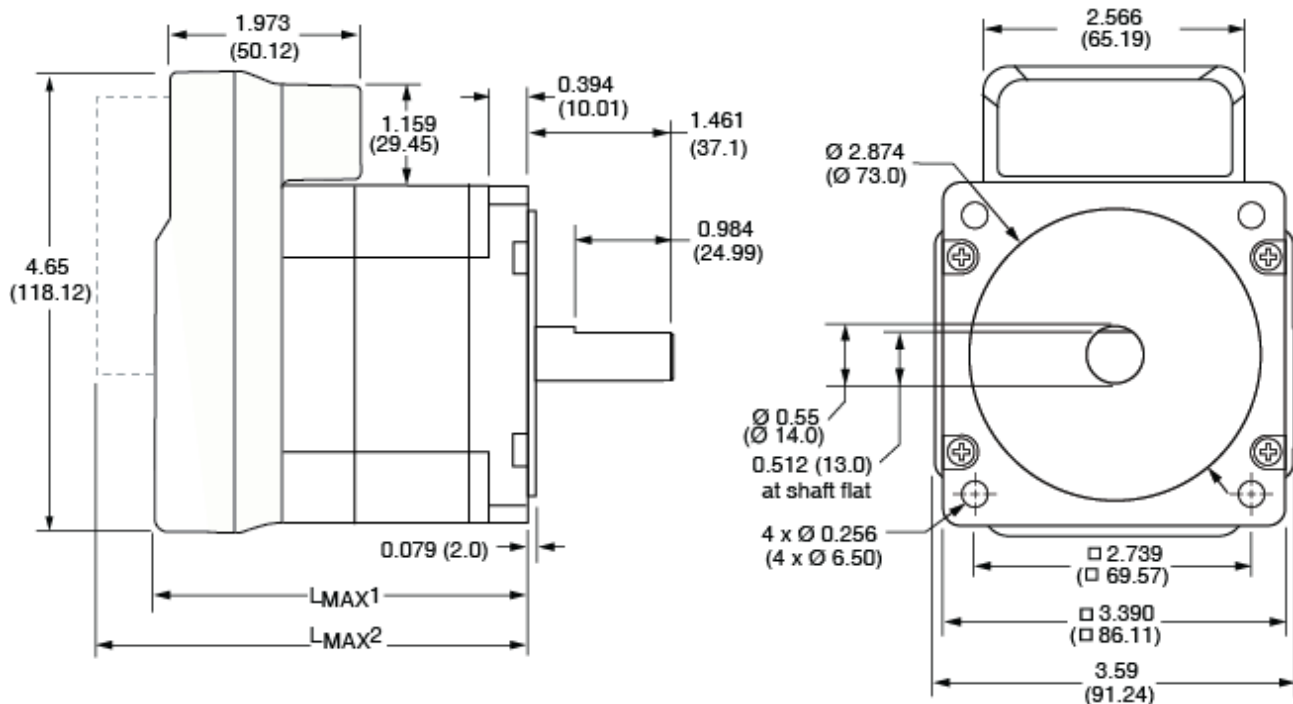
Specification	
Control type	Programmable Motion
Communications interface	RS-422/485
Communications features	MCode OS
NEMA size	34 (85x85 mm)
Torque range	2,37 ... 6,50 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +70 +VDC
Power supply current requirement	4.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²
I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Power outputs opoen or closed loop number	2

I/O Specifications	
Power outputs absolute encoder number	1
Power outputs voltage rating	-24 ... +24 +VDC
Power outputs current rating	-100 ... +100 mA
Power outputs protection	over temp, short circuit, transient, over voltage, inductive clamp
Power outputs isolation	Galvanic

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Absolute encoder: data retention on internal power	days	max. 30	
Absolute encoder: data retention on internal power with battery pack	5	years	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications										
MCode OS program storage	Type Flash									
MCode OS program storage	11,120 Bytes									
Multidrop addresses	62									
User registers (Integer)	4									
User registers (Floating point)	8									
User registers Length	32 bits									
Math	+ - x ÷ > = = >=									
Logic	AND OR XOR NOT									
Trigonometric	ABS	COS	ACOS	LOG2	LOG10	PI	SIN	ASIN	SQRT	
				TAN	ATAN					
Branch functions	Branch & call									
Input functions	Home	limit plus	limit minus	go	stop	pause	jog plus			
		jog minus	general purpose	capture						
Output functions	Moving	error	velocity change	stall	locked rotor	moving position				
	hMT active	make-up active	encoder A	encoder B	trip					
			attention. general purpose,							
Trip functions	Trip on input	trip on position	trip on time	trip capture						
	trip on relative position	trip on main power loss								
Encoder functions1	hMTechnology	stall detection	position maintenance	find index						



LM85 NEMA 34 Pulse/direction IP20

Compact integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 34 (85 mm) Holding Torque range: 336 ... 920 oz-in (237 ... 650 N-cm) Input voltage: +12 to +70 VDC



<https://www.kocomotion.de/produkt/lm85-nema-34-pulse-direction-ip20/>



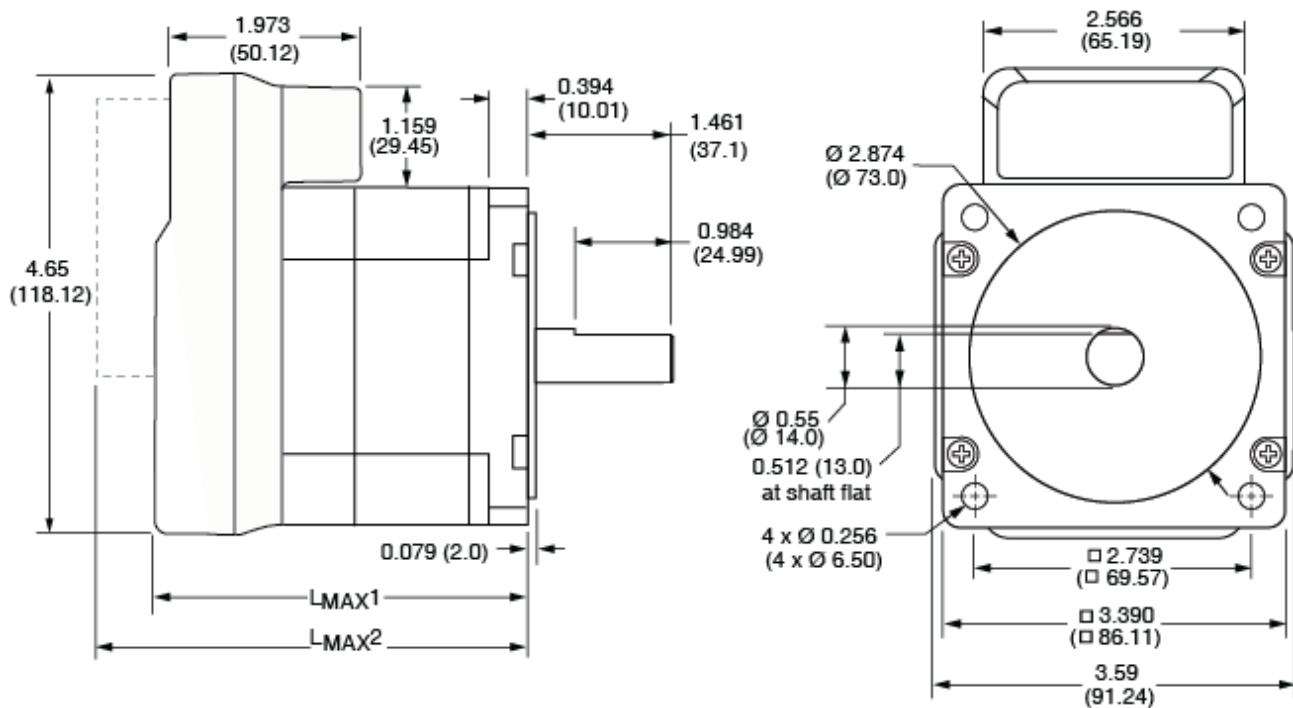
Specification	
Control type	Pulse/direction input
Communications interface	RS-422/485
Communications features	Configuration Interface (MCode OS)
NEMA size	34 (85x85 mm)
Torque range	2,37 ... 6,50 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +70 +VDC
Power supply current requirement	4.0 A

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Logic and I/O
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency pulse (step)	2.56 MHz
Signal input frequency quadrature	1.25 MHz
Signal input frequency enable	5 MHz (max.)
Signal input isolation	Galvanic
Signal input protection class	III
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications				
Value		-		
Microstep resolution	[steps/rev]	200 ... 51200		
Run current	[%]	1 ... 100		
Holding current	[%]	0 ... 100		
Hold current delay	[mSec]	0 ... 65535		
Clock modes	Step/dir	Quadrature	CW/CCW	
Motion input filter	[kHz ... MHz]	38.8 ... 10		
Enable input	Active state/filter			
Advanced operating modes	Pulse/direction	Speed Control	Commanded Velocity,Torque Control	
Advanced parameters	Common	RS-422/485		
Advanced parameters	Mode specific	I/O	Motion,Analog input	velocity
hMT modes	hMT OFF	fixed current	Variable current	Torque
Operation	Make-up position,Torque %			



LM85 NEMA 34 Pulse/direction IP65

Compact integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 34 (85 mm) Holding Torque range: 336 ... 920 oz-in (237 ... 650 N-cm) Input voltage: +12 to +70 VDC



<https://www.kocomotion.de/produkt/lm85-nema-34-pulse-direction-ip65/>



Specification	
Control type	Pulse/direction input
Communications interface	RS-422/485
Communications features	Configuration Interface (MCode OS)
NEMA size	34 (85x85 mm)
Torque range	2,37 ... 6,50 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +70 +VDC
Power supply current requirement	4.0 A

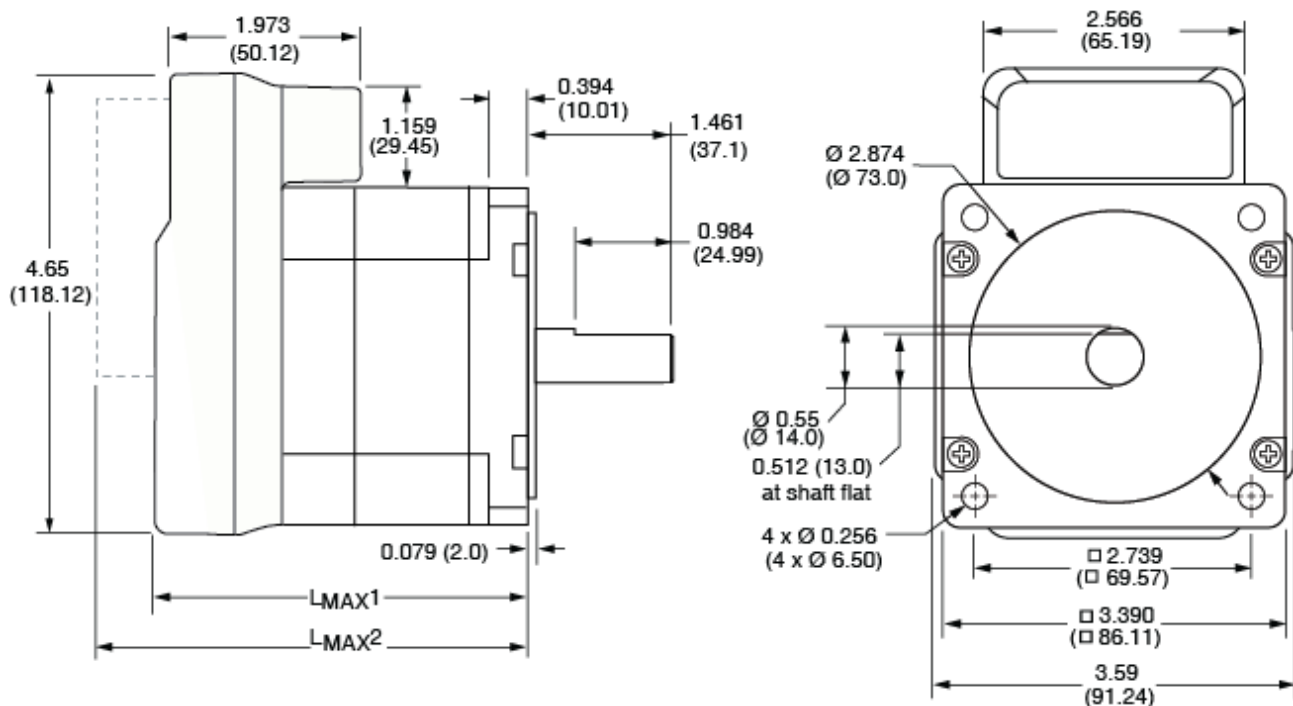
Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Logic and I/O
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency pulse (step)	2.56 MHz
Signal input frequency quadrature	1.25 MHz
Signal input frequency enable	5 MHz (max.)
Signal input isolation	Galvanic
Signal input protection class	III
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications

Value	-			
Microstep resolution	[steps/rev]	200 ... 51200		
Run current	[%]	1 ... 100		
Holding current	[%]	0 ... 100		
Hold current delay	[mSec]	0 ... 65535		
Clock modes	Step/dir	Quadrature	CW/CCW	
Motion input filter	[kHz ... MHz]	38.8 ... 10		
Enable input	Active state/filter			
Advanced operating modes	Pulse/direction	Speed Control	Commanded Velocity,Torque Control	
Advanced parameters	Common	RS-422/485		
Advanced parameters	Mode specific	I/O	Motion,Analog input	velocity
hMT modes	hMT OFF	fixed current	Variable current	Torque
Operation	Make-up position,Torque %			



LMD42 NEMA 17

LM42 NEMA 17 with

- Pulse/Direction
- Motion Control (RS422/485)
- CANopen
- Ethernet (MCode OS, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/lmd42-nema-17/>



Produkte:	Seite
LM42 NEMA 17 CANopen IP20	69
LM42 NEMA 17 CANopen IP65	73
LM42 NEMA 17 Ethernet TCP/IP IP20	77
LM42 NEMA 17 Ethernet TCP/IP IP65	82
LM42 NEMA 17 Programmable Motion Control IP20	87
LM42 NEMA 17 Programmable Motion Control IP65	91
LM42 NEMA 17 Pulse/direction IP20	95
LM42 NEMA 17 Pulse/direction IP65	98

LM42 NEMA 17 CANopen IP20

Compact integrated motor with CANopen CiA301 and CiA402. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 17 (42 mm) Holding Torque range: 44 ... 88 oz-in (31 ... 62 N-cm) Input voltage: +12 to +48 VDC



<https://www.kocomotion.de/produkt/lm42-nema-17-canopen-ip20/>

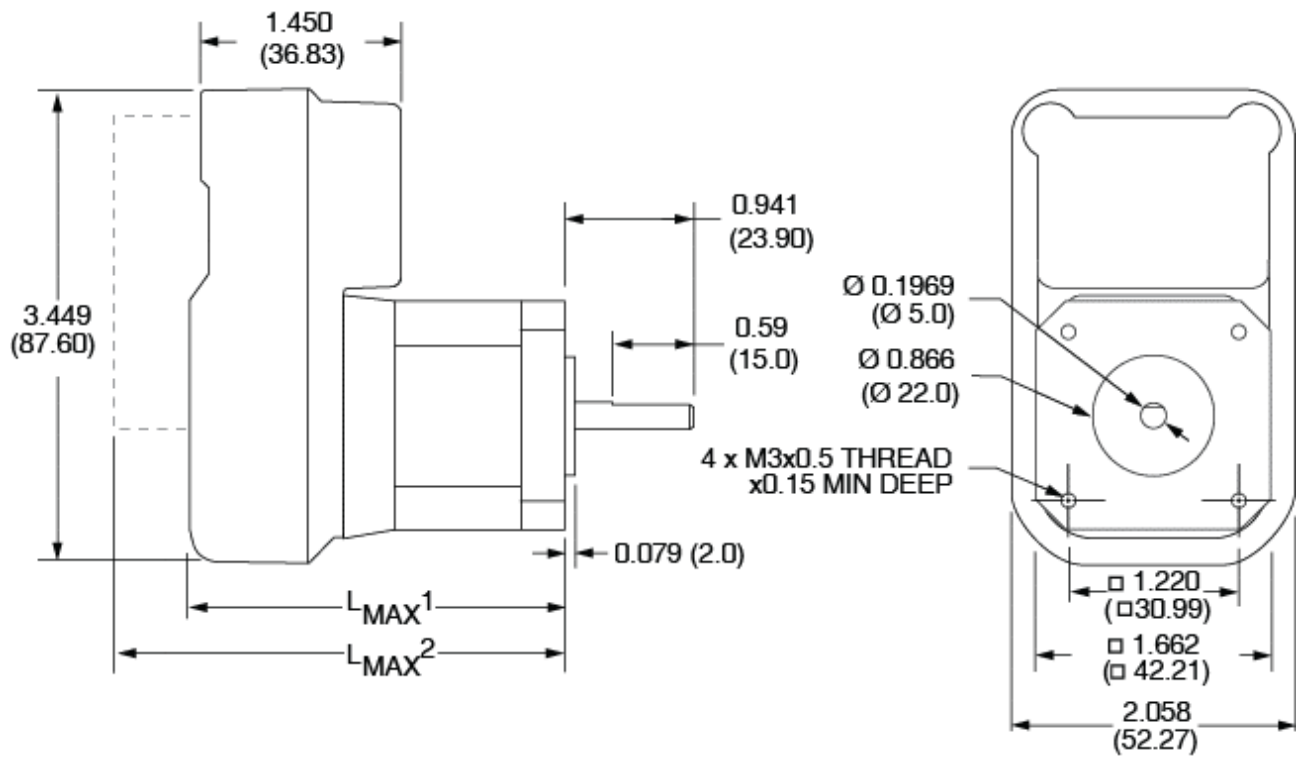


Specification	
Control type	CANopen
Communications interface	CAN Bus 2.0B
Communications features	CANopen DS301, DSP402
NEMA size	17 (42x42 mm)
Torque range	0,31 ... 0,62 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-logic Supply Current	194 mA max
Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Absolute encoder: data retention on internal power	days	max. 30	
Absolute encoder: data retention on internal power with battery pack	5	years	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications			
Value	-		
CANopen application layer	DS301: CANopen application layer and communication profile		
CANopen profile	DSP402: CANopen device profile for drives and motion control		
CANopen connectivity	DR303-1: Cabling and connector pin assignment		
CANopen commissioning	DS305: CANopen layer setting services (LSS) and protocols		
Parameter storage	Setup storable to NVM		
Transmit PDOs	4 dynamically mappable		
Receive PDOs	4 dynamically mappable		
Manufacturer specific objects	I/O Configuration	Run/Hold Current	
Modes of operation	Profile Position	Homing Mode	Profile Velocity Cyclic Synchronous Position
Input functions	General purpose	home	limit
Output functions	General purpose	braking	



LM42 NEMA 17 CANopen IP65

Compact integrated motor with CANopen CiA301 and CiA402. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 17 (42 mm) Holding Torque range: 44 ... 88 oz-in (31 ... 62 N-cm) Input voltage: +12 to +48 VDC



<https://www.kocomotion.de/produkt/lm42-nema-17-canopen-ip65/>



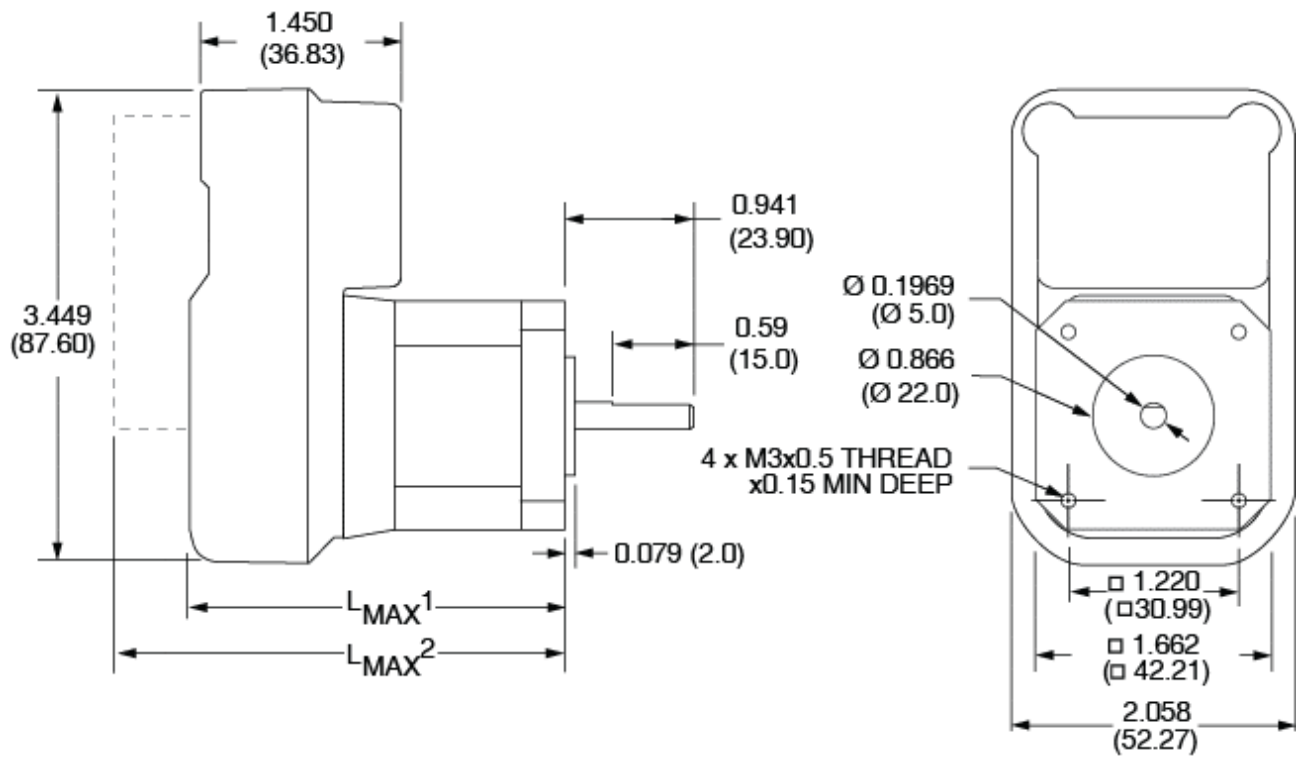
Specification	
Control type	CANopen
Communications interface	CAN Bus 2.0B
Communications features	CANopen DS301, DSP402
NEMA size	17 (42x42 mm)
Torque range	0,31 ... 0,62 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Absolute encoder: data retention on internal power	days	max. 30	
Absolute encoder: data retention on internal power with battery pack	5	years	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications				
Value	-			
CANopen application layer	DS301: CANopen application layer and communication profile			
CANopen profile	DSP402: CANopen device profile for drives and motion control			
CANopen connectivity	DR303-1: Cabling and connector pin assignment			
CANopen commisioning	DS305: CANopen layer setting services (LSS) and protocols			
Parameter storage	Setup storable to NVM			
Transmit PDOs	4 dynamically mappable			
Receive PDOs	4 dynamically mappable			
Manufacturer specific objects	I/O Configuration	Run/Hold Current		
Modes of operation	Profile Position	Homing Mode	Profile Velocity	Profile Torque1
	Cyclic Synchronous Position			
Input functions	General purpose		home	limit
Output functions	General purpose		braking	



LM42 NEMA 17 Ethernet TCP/IP IP20



Compact integrated motor for industrial networks with EtherNet/IP, Profinet and Modbus. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 17 (42 mm) Holding Torque range: 44 ... 88 oz-in (31 ... 62 N-cm) Input voltage: +12 to +48 VDC



<https://www.kocomotion.de/produkt/lm42-nema-17-ethernet-tcp-ip-ip20/>

Specification	
Control type	Ethernet TCP/IP
Communications interface	Ethernet TCP/IP
Communications features	EtherNet/IP, Modbus/TCP, Profinet I/O, MCode OS
NEMA size	17 (42x42 mm)
Torque range	0,31 ... 0,62 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

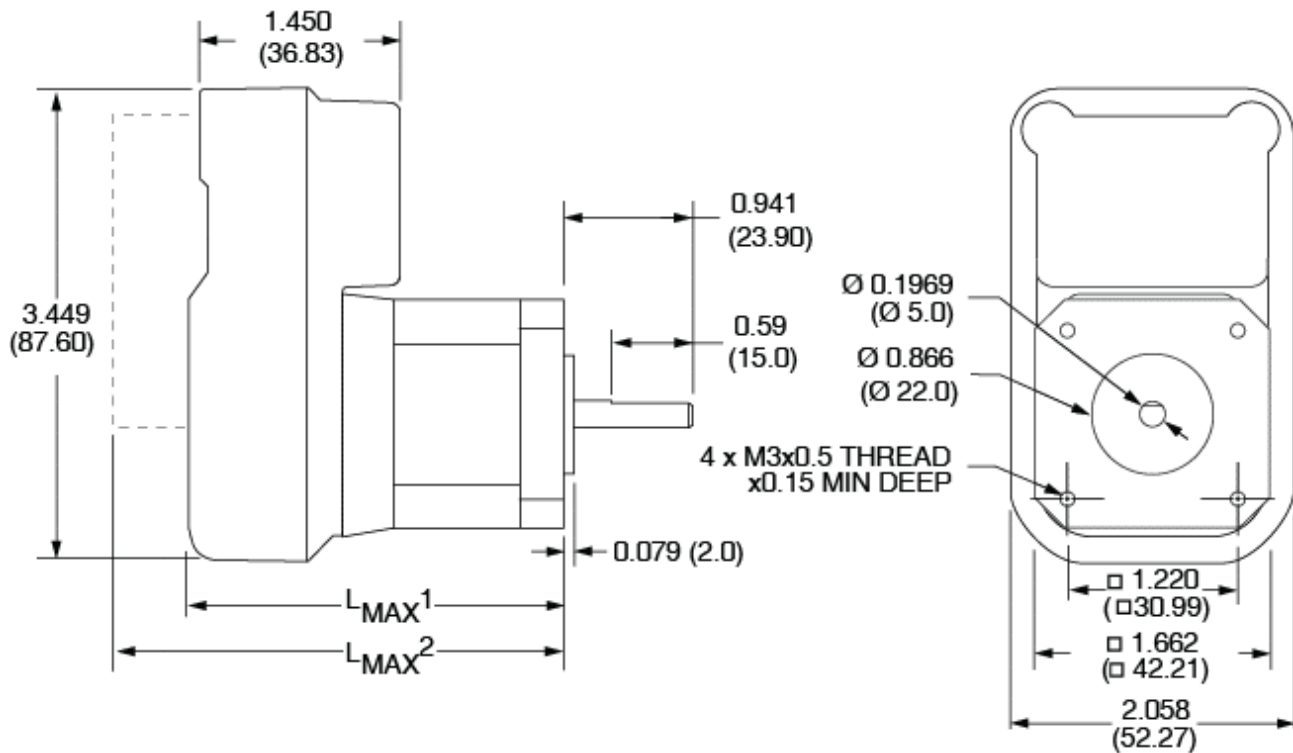
I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Absolute encoder: data retention on internal power	days	max. 30	
Absolute encoder: data retention on internal power with battery pack	5	years	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications									
Value	-								
MCode OS program storage	Type	Flash							
MCode OS program storage	11.120	Bytes							
User registers	4	Integer							
User registers	8	Floating Point							
User registers	32	Length [Bits]							
Math	+	-	x	÷	>	=	=	>=	
Logic	AND OR XOR NOT								
Trigonometric	ABS	COS	ACOS	LOG2	LOG10	PI	SIN	ASIN	SQRT
				TAN	ATAN				
Branch functions	Branch & call								
Input functions	Home	limit plus	limit minus	go	stop	pause	jog plus		
		jog minus	general purpose	capture					
Output functions	Moving	error	velocity change	stall	locked rotor	moving position			
	hMT active	make-up active	encoder A	encoder B	trip				
			attention. general purpose,						
Trip functions	Trip on input	trip on position	trip on time	trip capture					
	trip on relative position	trip on main power loss							
Encoder functions1	hMTechnology	stall detection	position maintenance	find index					
EtherNet/IP (ODVA Conformance Checked) Object model	0x01	Identity object							
EtherNet/IP (ODVA Conformance Checked) Object model	0x04	Assembly object (parameters mappable)							

Software Specifications			
EtherNet/IP (ODVA Conformance Checked) Object model	0xF5	TCP object	
EtherNet/IP (ODVA Conformance Checked) Object model	0xF6	Ethernet object	
EtherNet/IP Manufacturer specific object classes	0x64	Setup instructions	
EtherNet/IP Manufacturer specific object classes	0x65	Miscellaneous instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x66	Motion instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x67	I/O instruction variables and flags	
EtherNet/IP Manufacturer specific object classes	0x68	Position related instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x69	Encoder related instructions and flags ¹	
EtherNet/IP Manufacturer specific object classes	0x6A	hMTechnology specific instructions ¹	
Modbus/TCP Device ID	43/14d (0x2B/0x0E)	Read device identification	
Modbus/TCP Public function codes	02d (0x02)	Read digital inputs	
Modbus/TCP Public function codes	01d (0x01)	Read coils (digital outputs)	
Modbus/TCP Public function codes	05d (0x05)	Write single coil (digital output)	
Modbus/TCP Public function codes	03d (0x03)	Read holding register	
Modbus/TCP Public function codes	16d (0x10)	Write multiple registers	
Modbus/TCP Manufacturer specific function codes	65d (0x41)	Read I/O and trip configuration and parameters	
Modbus/TCP Manufacturer specific function codes	66d (0x42)	Write I/O and trip configuration and parameters enter upgrade mode.	
Modbus/TCP Profinet IO	Output	Slot 1	
Modbus/TCP Profinet IO	Size	128 Bytes	
Modbus/TCP Profinet IO	38	Registers	
Modbus/TCP Profinet IO	Input	Slot 2	

Software Specifications			
Modbus/TCP Profinet IO	34	Registers	
Modbus/TCP Profinet IO	Register mapping	Variable	user defined



LM42 NEMA 17 Ethernet TCP/IP IP65

Compact integrated motor for industrial networks with EtherNet/IP, Profinet and Modbus. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 17 (42 mm) Holding Torque range: 44 ... 88 oz-in (31 ... 62 N-cm) Input voltage: +12 to +48 VDC



<https://www.kocomotion.de/produkt/lm42-nema-17-ethernet-tcp-ip-ip65/>

Specification	
Control type	Ethernet TCP/IP
Communications interface	Ethernet TCP/IP
Communications features	EtherNet/IP, Modbus/TCP, Profinet I/O, MCode OS
NEMA size	17 (42x42 mm)
Torque range	0,31 ... 0,62 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10^9 steps/sec2
Accel/Decel resolution	90.9 steps/sec2

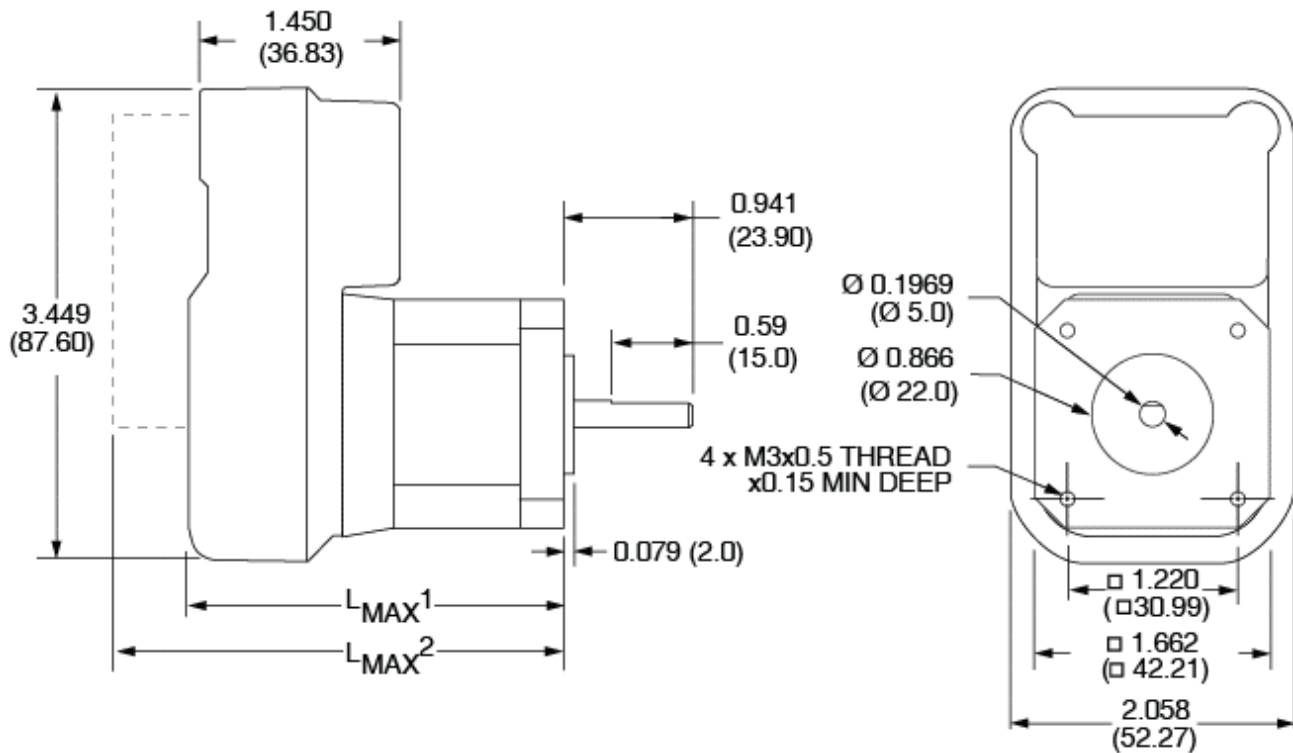
I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Absolute encoder: data retention on internal power	days	max. 30	
Absolute encoder: data retention on internal power with battery pack	5	years	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications											
Value	-										
MCode OS program storage				Type	Flash						
MCode OS program storage				11.120	Bytes						
User registers				4	Integer						
User registers				8	Floating Point						
User registers				32	Length [Bits]						
Math				+	-	x	÷	>	=	=	>=
Logic				AND	OR	XOR	NOT				
Trigonometric	ABS	COS	ACOS	LOG2	LOG10	PI	SIN	ASIN	SQRT		
				TAN	ATAN						
Branch functions	Branch & call										
Input functions	Home	limit plus	limit minus	go	stop	pause	jog plus				
		jog minus	general purpose	capture							
Output functions	Moving	error	velocity change	stall	locked rotor	moving position					
	hMT active	make-up active	encoder A	encoder B	trip						
	attention. general purpose,										
Trip functions	Trip on input		trip on position		trip on time		trip capture				
	trip on relative position				trip on main power loss						
Encoder functions1	hMTechnology		stall detection		position maintenance			find index			
EtherNet/IP (ODVA Conformance Checked) Object model				0x01	Identity object						
EtherNet/IP (ODVA Conformance Checked) Object model			0x04	Assembly object (parameters mappable)							

Software Specifications			
EtherNet/IP (ODVA Conformance Checked) Object model	0xF5	TCP object	
EtherNet/IP (ODVA Conformance Checked) Object model	0xF6	Ethernet object	
EtherNet/IP Manufacturer specific object classes	0x64	Setup instructions	
EtherNet/IP Manufacturer specific object classes	0x65	Miscellaneous instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x66	Motion instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x67	I/O instruction variables and flags	
EtherNet/IP Manufacturer specific object classes	0x68	Position related instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x69	Encoder related instructions and flags ¹	
EtherNet/IP Manufacturer specific object classes	0x6A	hMTechnology specific instructions ¹	
Modbus/TCP Device ID	43/14d (0x2B/0x0E)	Read device identification	
Modbus/TCP Public function codes	02d (0x02)	Read digital inputs	
Modbus/TCP Public function codes	01d (0x01)	Read coils (digital outputs)	
Modbus/TCP Public function codes	05d (0x05)	Write single coil (digital output)	
Modbus/TCP Public function codes	03d (0x03)	Read holding register	
Modbus/TCP Public function codes	16d (0x10)	Write multiple registers	
Modbus/TCP Manufacturer specific function codes	65d (0x41)	Read I/O and trip configuration and parameters	
Modbus/TCP Manufacturer specific function codes	66d (0x42)	Write I/O and trip configuration and parameters enter upgrade mode.	
Modbus/TCP Profinet IO	Output	Slot 1	
Modbus/TCP Profinet IO	Size	128 Bytes	
Modbus/TCP Profinet IO	38	Registers	
Modbus/TCP Profinet IO	Input	Slot 2	

Software Specifications			
Modbus/TCP Profinet IO	34	Registers	
Modbus/TCP Profinet IO	Register mapping	Variable	user defined



LM42 NEMA 17 Programmable Motion Control IP20

Compact programmable integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 17 (42 mm) Holding Torque range: 44 ... 88 oz-in (31 ... 62 N-cm) Input voltage: +12 to +48 VDC



<https://www.kocomotion.de/produkt/lm42-nema-17-programmable-motion-control-ip20/>

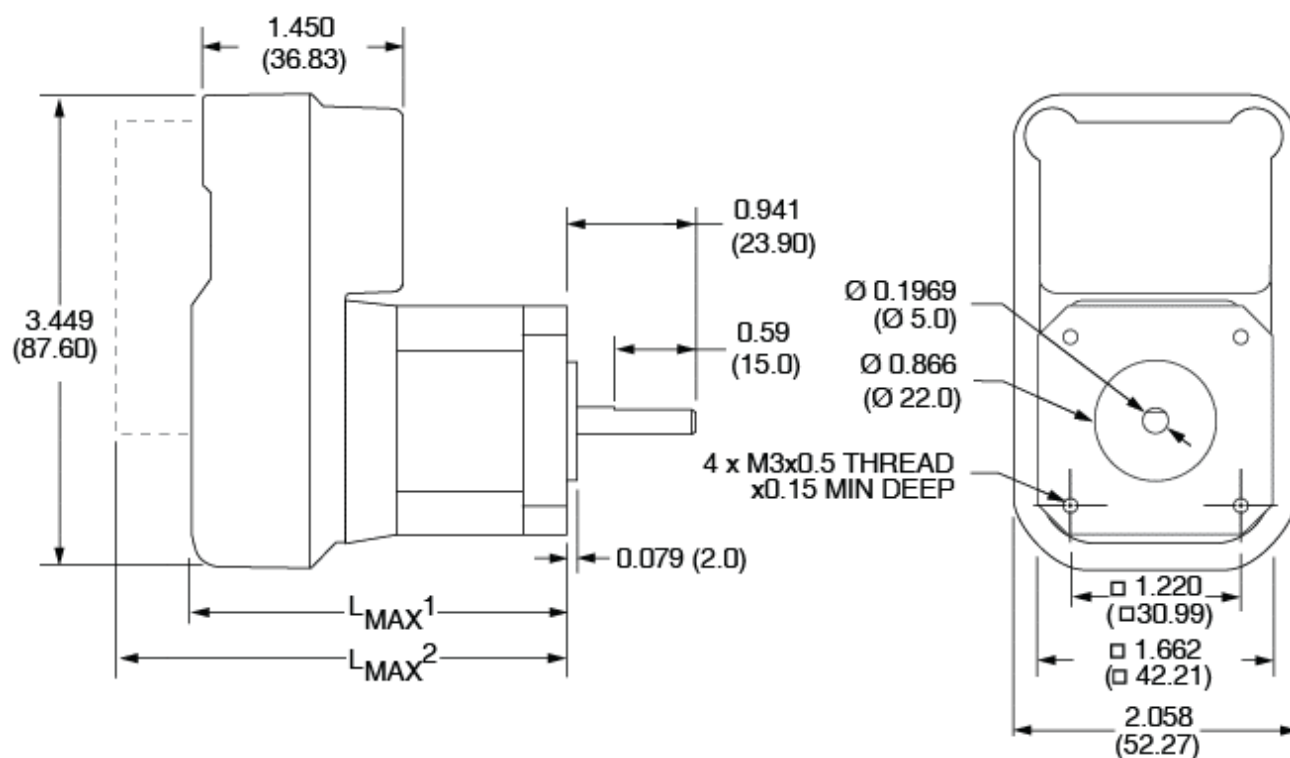


Specification	
Control type	Programmable Motion
Communications interface	RS-422/485
Communications features	MCode OS
NEMA size	17 (42x42 mm)
Torque range	0,31 ... 0,62 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10^9 steps/sec2
Accel/Decel resolution	90.9 steps/sec2

I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None

Closed Loop / Absolute Encoder												
Value				-								
Encoder type				Internal		magnetic						
Encoder resolution				Lines / Edges		1000 / 4000						
Absolute encoder: data retention on internal power				days		max. 30						
Absolute encoder: data retention on internal power with battery pack				5		years						
Counter resolution				32		bit						
hMTechnology OFF, encoder ON				Position maintenance		find index		stall detect				
hMTechnology ON, encoder OFF				Anti-stall		variable current control		torque mode				
Software Specifications												
Value				-								
MCode OS program storage				Type Flash								
MCode OS program storage				11120 Bytes								
Multidrop addresses				62								
User registers (Integer)				4								
User registers (Floating point)				8								
User registers length				32 bit								
Math				+	-	x	÷	>	=	=	>=	
Logic				AND		OR	XOR	NOT				
Trigonometric				ABS	COS	ACOS	LOG2	LOG10	PI	SIN	ASIN	SQRT
							TAN	ATAN				
Branch functions				Branch & call								
Input functions				Home	limit plus	limit minus	go	stop	pause	jog plus		
					jog minus	general purpose	capture					
Output functions				Moving	error	velocity change	stall	locked rotor	moving position			
				hMT active	make-up active	encoder A	encoder B	trip				
				attention. general purpose,								
Trip functions				Trip on input		trip on position		trip on time		trip capture		
				trip on relative position		trip on main power loss						
Encoder functions1				hMTechnology		stall detection		position maintenance		find index		



LM42 NEMA 17

Programmable Motion Control IP65



Compact programmable integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 17 (42 mm) Holding Torque range: 44 ... 88 oz-in (31 ... 62 N-cm) Input voltage: +12 to +48 VDC

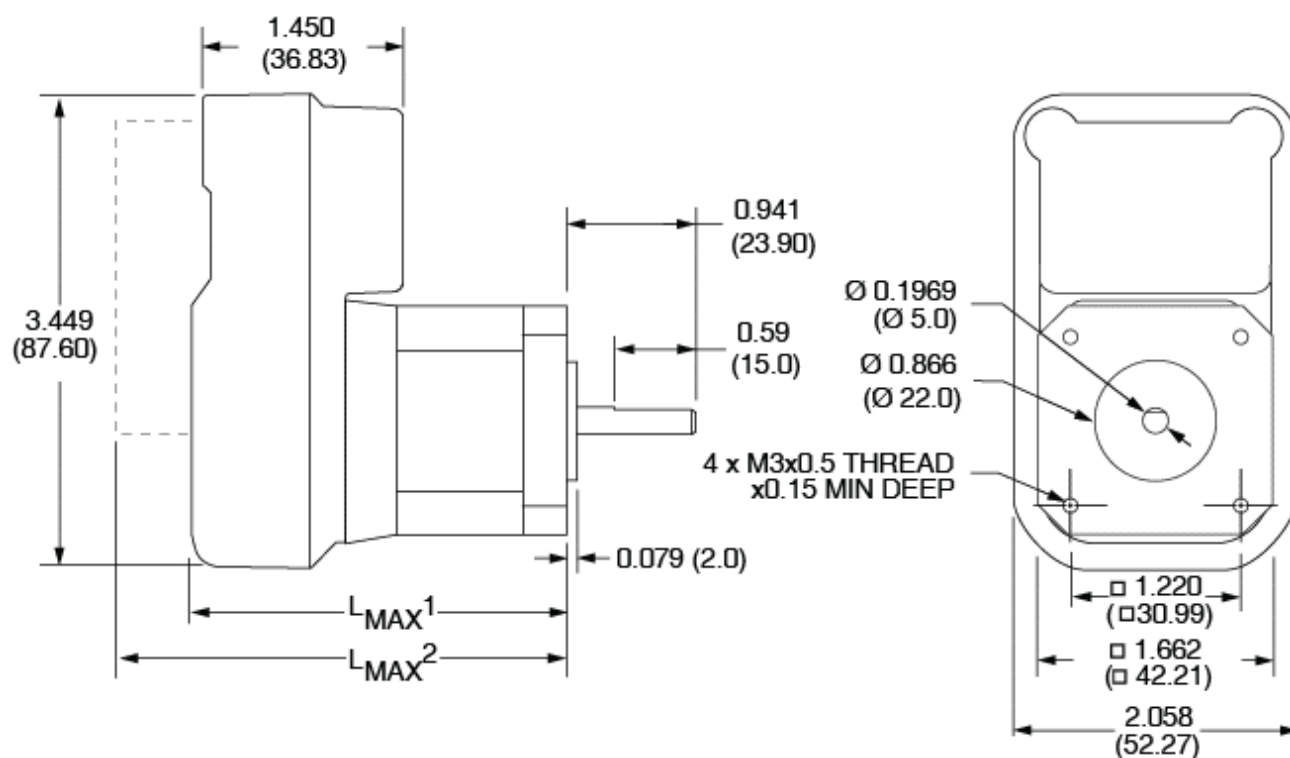


<https://www.kocomotion.de/produkt/lm42-nema-17-programmable-motion-control-ip65/>

Specification	
Control type	Programmable Motion
Communications interface	RS-422/485
Communications features	MCode OS
NEMA size	17 (42x42 mm)
Torque range	0,31 ... 0,62 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²
I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None

Closed Loop / Absolute Encoder												
Value				-								
Encoder type				Internal		magnetic						
Encoder resolution				Lines / Edges		1000 / 4000						
Absolute encoder: data retention on internal power				days		max. 30						
Absolute encoder: data retention on internal power with battery pack				5		years						
Counter resolution				32		bit						
hMTechnology OFF, encoder ON				Position maintenance		find index		stall detect				
hMTechnology ON, encoder OFF				Anti-stall		variable current control		torque mode				
Software Specifications												
Value				-								
MCode OS program storage				Type Flash								
MCode OS program storage				11120 Bytes								
Multidrop addresses				62								
User registers (Integer)				4								
User registers (Floating point)				8								
User registers length				32 bit								
Math				+	-	x	÷	>	=	=	>=	
Logic				AND		OR		XOR		NOT		
Trigonometric				ABS	COS	ACOS	LOG2	LOG10	PI	SIN	ASIN	SQRT
							TAN	ATAN				
Branch functions				Branch & call								
Input functions				Home	limit plus	limit minus	go	stop	pause	jog plus		
					jog minus	general purpose	capture					
Output functions				Moving	error	velocity change	stall	locked rotor	moving position			
				hMT active	make-up active	encoder A	encoder B	trip				
				attention. general purpose,								
Trip functions				Trip on input	trip on position		trip on time		trip capture			
				trip on relative position			trip on main power loss					
Encoder functions1				hMTechnology		stall detection		position maintenance		find index		



LM42 NEMA 17 Pulse/direction IP20

Compact integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 17 (42 mm) Holding Torque range: 44 ... 88 oz-in (31 ... 62 N-cm) Input voltage: +12 to +48 VDC


<https://www.kocomotion.de/produkt/lm42-nema-17-pulse-direction-ip20/>


Specification	
Control type	Pulse/direction input
Communications interface	RS-422/485
Communications features	Configuration Interface (MCode OS)
NEMA size	17 (42x42 mm)
Torque range	0,31 ... 0,62 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A

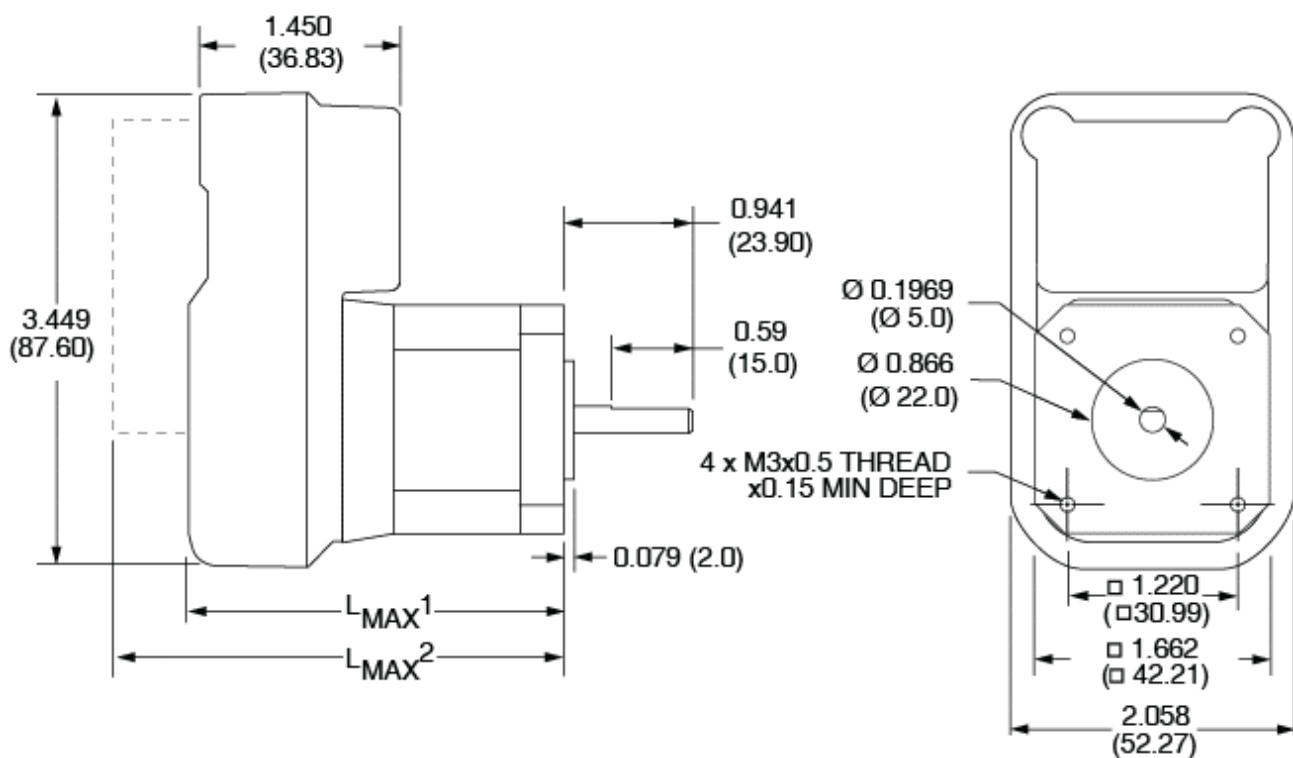
Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10^9 steps/sec2
Accel/Decel resolution	90.9 steps/sec2

I/O Specifications	
I/O functions	Logic and I/O
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency pulse (step)	2.56 MHz
Signal input frequency quadrature	1.25 MHz
Signal input frequency enable	5 MHz (max.)
Signal input isolation	Galvanic
Signal input protection class	III
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications

Value	-			
Microstep resolution	[steps/rev]	200 ... 51200		
Run current	[%]	1 ... 100		
Holding current	[%]	0 ... 100		
Hold current delay	[mSec]	0 ... 65535		
Clock modes	Step/dir	Quadrature	CW/CCW	
Motion input filter	[kHz ... MHz]	38.8 ... 10		
Enable input	Active state/filter			
Advanced operating modes	Pulse/direction	Speed Control	Commanded Velocity,Torque Control	
Advanced parameters	Common	RS-422/485		
Advanced parameters	Mode specific	I/O	Motion,Analog input	velocity
hMT modes	hMT OFF	fixed current	Variable current	Torque
Operation	Make-up position,Torque %			



LM42 NEMA 17

Pulse/direction IP65

Compact integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 17 (42 mm) Holding Torque range: 44 ... 88 oz-in (31 ... 62 N-cm) Input voltage: +12 to +48 VDC


<https://www.kocomotion.de/produkt/lm42-nema-17-pulse-direction-ip65/>

Specification	
Control type	Pulse/direction input
Communications interface	RS-422/485
Communications features	Configuration Interface (MCode OS)
NEMA size	17 (42x42 mm)
Torque range	0,31 ... 0,62 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A

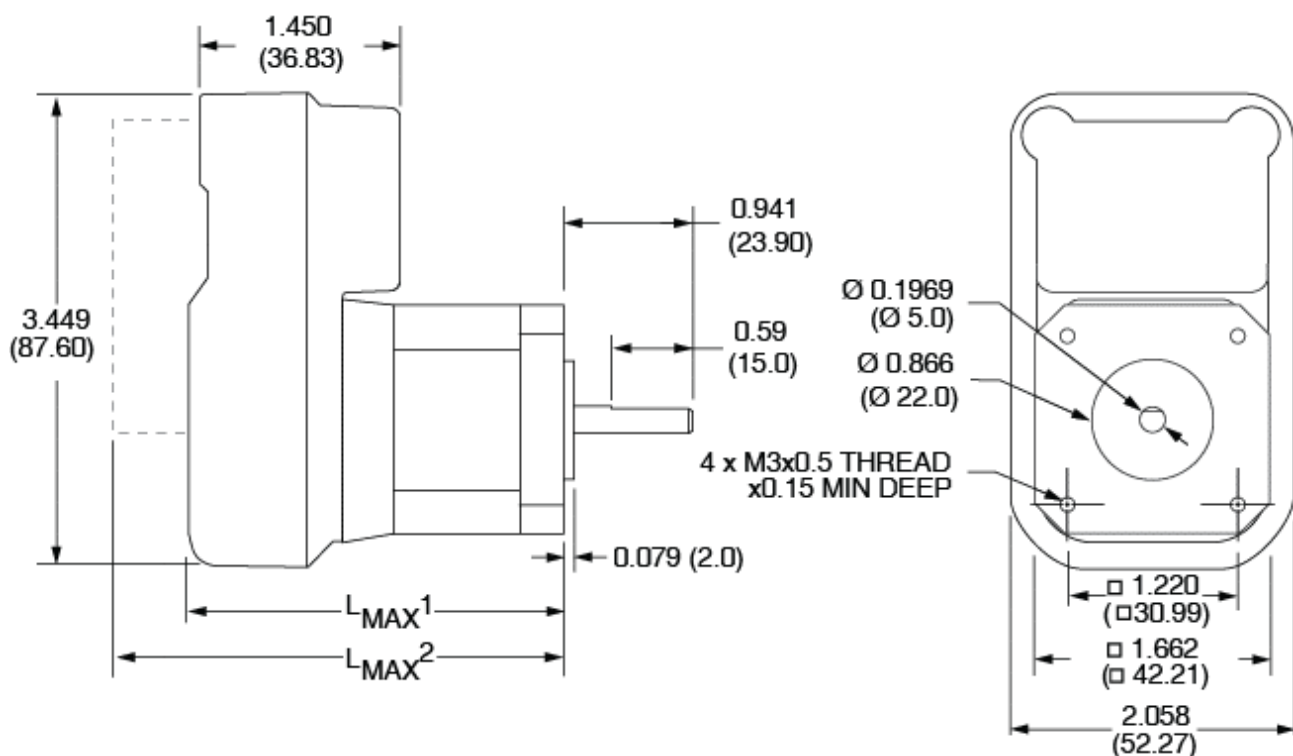
Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Logic and I/O
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency pulse (step)	2.56 MHz
Signal input frequency quadrature	1.25 MHz
Signal input frequency enable	5 MHz (max.)
Signal input isolation	Galvanic
Signal input protection class	III
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications

Value	-			
Microstep resolution	[steps/rev]	200 ... 51200		
Run current	[%]	1 ... 100		
Holding current	[%]	0 ... 100		
Hold current delay	[mSec]	0 ... 65535		
Clock modes	Step/dir	Quadrature	CW/CCW	
Motion input filter	[kHz ... MHz]	38.8 ... 10		
Enable input	Active state/filter			
Advanced operating modes	Pulse/direction	Speed Control	Commanded Velocity,Torque Control	
Advanced parameters	Common	RS-422/485		
Advanced parameters	Mode specific	I/O	Motion,Analog input	velocity
hMT modes	hMT OFF	fixed current	Variable current	Torque
Operation	Make-up position,Torque %			



LMH57 NEMA 23

LMH57 NEMA 23 with High Torque

- Pulse/Direction
- Motion Control (RS422/485)
- CANopen
- Ethernet (MCode OS, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/lmh57-nema-23/>



Produkte:	Seite
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LH57 NEMA 23 CANopen IP65 - High Torque	106
LH57 NEMA 23 Ethernet TCP/IP IP20 - High Torque	110
LH57 NEMA 23 Ethernet TCP/IP IP65 - High Torque	116
LH57 NEMA 23 Programmable Motion Control IP20 - High Torque	122
LH57 NEMA 23 Programmable Motion Control IP65 - High Torque	126
LH57 NEMA 23 Pulse/direction IP20 - High Torque	130
LH57 NEMA 23 Pulse/direction IP65 - High Torque	134

LH57 NEMA 23 CANopen IP20 - High Torque

Compact integrated motor with CANopen CiA301 and CiA402. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 23 (57 mm) Holding Torque range: 152 ... 416 oz-in (107 ... 294 N-cm) Input voltage: +12 to +60 VDC



<https://www.kocomotion.de/produkt/lh57-nema-23-canopen-ip20-high-torque/>



Specification	
Control type	CANopen
Communications interface	CAN Bus 2.0B
Communications features	CANopen DS301, DSP402
NEMA size	23 (57x57 mm)
Torque range	1,07 ... 2,94 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +60 +VDC
Power supply current requirement	3.5 A
Aux-Logic supply voltage	12... 24 +VDC
Aux-Logic supply current	194 max.mA

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

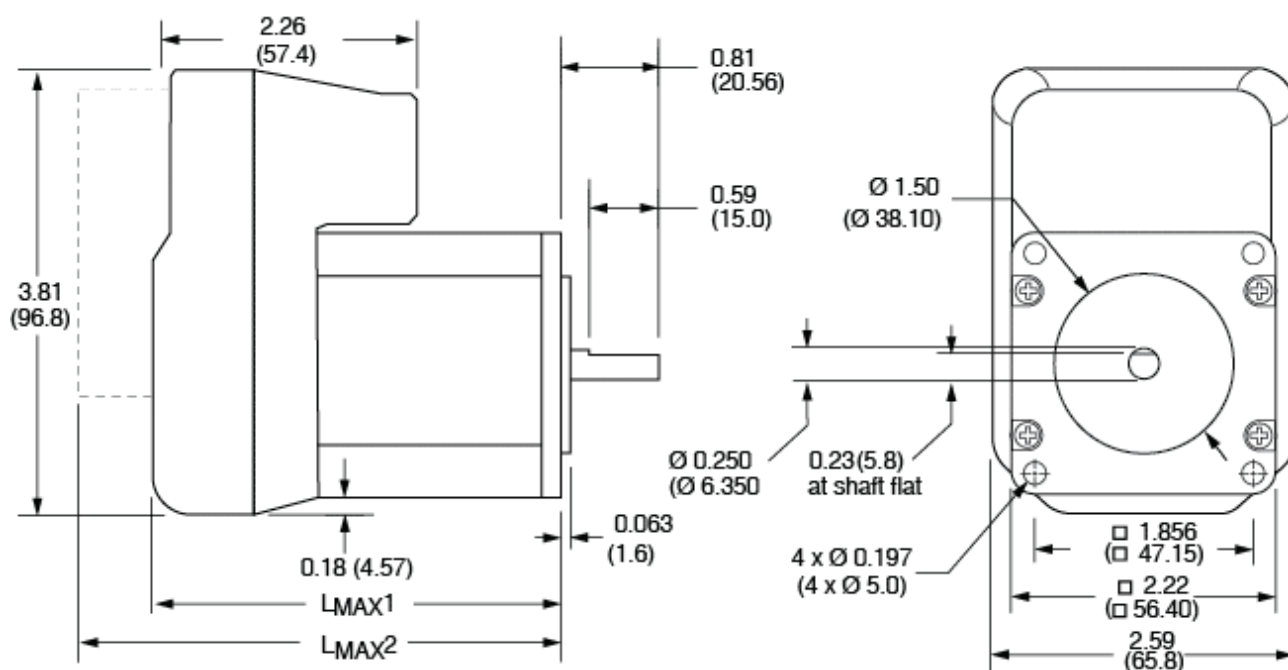
I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Power outputs opoen or closed loop number	2
Power outputs absolute encoder number	1
Power outputs voltage rating	-24 ... +24 +VDC
Power outputs current rating	-100 ... +100 mA
Power outputs protection	over temp, short circuit, transient, over voltage, inductive clamp
Power outputs isolation	Galvanic
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC

I/O Specifications	
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Absolute encoder: data retention on internal power	days	max. 30	
Absolute encoder: data retention on internal power with battery pack	5	years	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications				
Value	-			
CANopen application layer	DS301: CANopen application layer and communication profile			
CANopen profile	DSP402: CANopen device profile for drives and motion control			
CANopen connectivity	DR303-1: Cabling and connector pin assignment			
CANopen commissioning	DS305: CANopen layer setting services (LSS) and protocols			
Parameter storage	Setup storable to NVM			
Transmit PDOs	4 dynamically mappable			
Receive PDOs	4 dynamically mappable			
Manufacturer specific objects	I/O Configuration	Run/Hold Current		
Modes of operation	Profile Position	Homing Mode	Profile Velocity	Profile Torque1
	Cyclic Synchronous Position			
Input functions	General purpose		home	limit
Output functions	General purpose		braking	

Name	Unit	Single Length	Double Length	Triple Length
Holding torque	Ncm	107	186	294
Rotor inertia	kgcm2	0.14	0.22	0.37
Detent Torque	Ncm	6.0	10	15
Radial load limit	kg		6.8	
Axial Load Limit	kg		9	
Weight	g	748	885	1247



LH57 NEMA 23 CANopen IP65 - High Torque

Compact integrated motor with CANopen CiA301 and CiA402. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 23 (57 mm) Holding Torque range: 152 ... 416 oz-in (107 ... 294 N-cm) Input voltage: +12 to +60 VDC



<https://www.kocomotion.de/produkt/lh57-nema-23-canopen-ip65-high-torque/>

Specification	
Control type	CANopen
Communications interface	CAN Bus 2.0B
Communications features	CANopen DS301, DSP402
NEMA size	23 (57x57 mm)
Torque range	1,07 ... 2,94 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +60 +VDC
Power supply current requirement	3.5 A
Aux-logic supply voltage	12... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

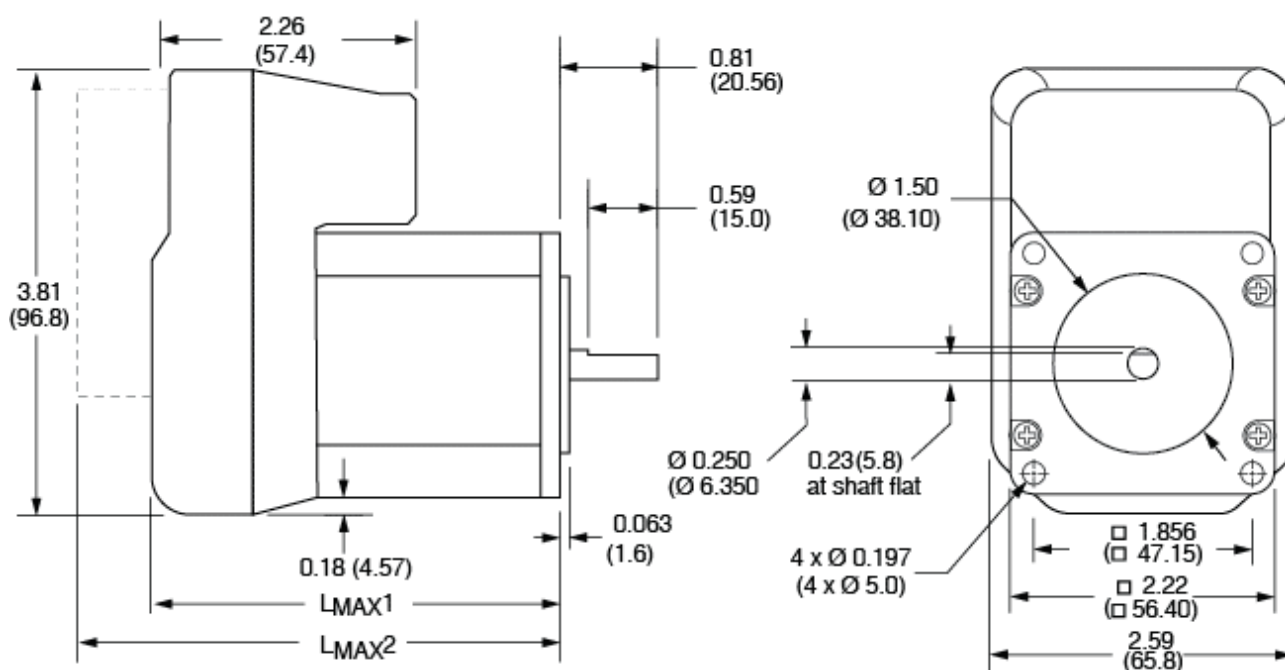
I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Power outputs opoen or closed loop number	2
Power outputs absolute encoder number	1
Power outputs voltage rating	-24 ... +24 +VDC
Power outputs current rating	-100 ... +100 mA
Power outputs protection	over temp, short circuit, transient, over voltage, inductive clamp
Power outputs isolation	Galvanic
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC

I/O Specifications	
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Absolute encoder: data retention on internal power	days	max. 30	
Absolute encoder: data retention on internal power with battery pack	5	years	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications				
Value		-		
CANopen application layer	DS301: CANopen application layer and communication profile			
CANopen profile	DSP402: CANopen device profile for drives and motion control			
CANopen connectivity	DR303-1: Cabling and connector pin assignment			
CANopen commisioning	DS305: CANopen layer setting services (LSS) and protocols			
Parameter storage	Setup storable to NVM			
Transmit PDOs	4 dynamically mappable			
Receive PDOs	4 dynamically mappable			
Manufacturer specific objects	I/O Configuration	Run/Hold Current		
Modes of operation	Profile Position	Homing Mode	Profile Velocity	Profile Torque1
	Cyclic Synchronous Position			
Input functions	General purpose	home	limit	
Output functions	General purpose	braking		

Name	Unit	Single Length	Double Length	Triple Length
Holding torque	Ncm	107	186	294
Rotor inertia	kgcm ²	0.14	0.22	0.37
Detent Torque	Ncm	6	10	15
Radial load limit	kg		6.8	
Axial Load Limit	kg		9	
Weight	g	748	885	1247



LH57 NEMA 23 Ethernet TCP/IP IP20 - High Torque

Compact integrated motor for industrial networks with EtherNet/IP, Profinet and Modbus. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 23 (57 mm) Holding Torque range: 152 ... 416 oz-in (107 ... 294 N-cm) Input voltage: +12 to +60 VDC



<https://www.kocomotion.de/produkt/lh57-nema-23-ethernet-tcp-ip-ip20-high-torque/>



Specification	
Control type	Ethernet TCP/IP
Communications interface	Ethernet TCP/IP
Communications features	EtherNet/IP, Modbus/TCP, Profinet I/O, MCode OS
NEMA size	23 (57x57 mm)
Torque range	1,07 ... 2,94 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +60 +VDC
Power supply current requirement	3.5 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Power outputs open or closed loop number	2
Power outputs absolute encoder number	1
Power outputs voltage rating	-24 ... +24 +VDC
Power outputs current rating	-100 ... +100 mA
Power outputs protection	over temp, short circuit, transient, over voltage, inductive clamp
Power outputs isolation	Galvanic
Signal output current	1 ... 5.5 mA

I/O Specifications

Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA

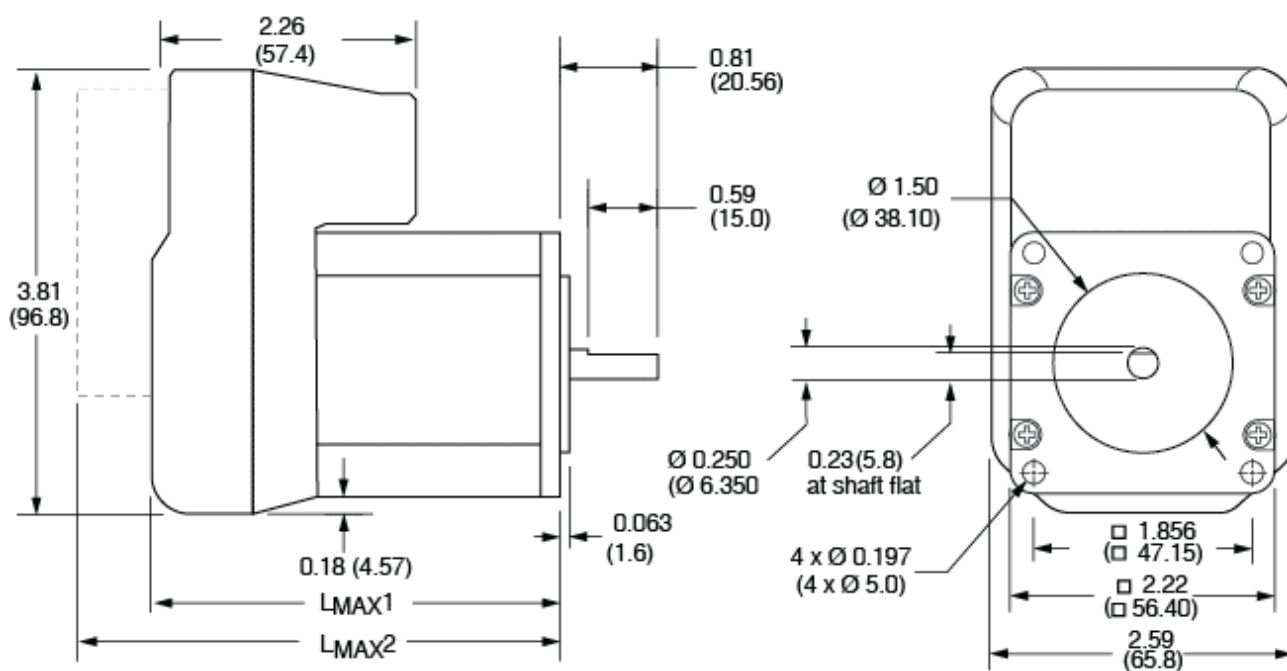
Closed Loop / Absolute Encoder												
Value				-								
Encoder type				Internal		magnetic						
Encoder resolution				Lines / Edges		1000 / 4000						
Absolute encoder: data retention on internal power				days		max. 30						
Absolute encoder: data retention on internal power with battery pack				5		years						
Counter resolution				32		bit						
hMTechnology OFF, encoder ON			Position maintenance			find index		stall detect				
hMTechnology ON, encoder OFF			Anti-stall		variable current control			torque mode				
Software Specifications												
Value				-								
MCode OS program storage				Type Flash								
MCode OS program storage				11,120 Bytes								
User registers (Integer)				4								
User registers (Floating point)				8								
User registers Length				32 bits								
Math				+	-	x	÷	>	=	=	>=	
Logic				AND		OR		XOR		NOT		
Trigonometric				ABS	COS	ACOS	LOG2	LOG10	PI	SIN	ASIN	SQRT
						TAN		ATAN				
Branch functions				Branch & call								
Input functions				Home	limit plus	limit minus	go	stop	pause	jog plus		
				jog minus		general purpose		capture				
Output functions				Moving	error	velocity change	stall	locked rotor	moving position			
				hMT active		make-up active		encoder A	encoder B	trip		
				attention. general purpose,								
Trip functions				Trip on input		trip on position		trip on time		trip capture		
				trip on relative position				trip on main power loss				
Encoder functions1				hMTechnology		stall detection		position maintenance		find index		
EtherNet/IP (ODVA Conformance Checked) Object model				0x01		Identity object						
EtherNet/IP (ODVA Conformance Checked) Object model				0x04		Assembly object (parameters mappable)						

Software Specifications			
EtherNet/IP (ODVA Conformance Checked) Object model	0xF5	TCP object	
EtherNet/IP (ODVA Conformance Checked) Object model	0xF6	Ethernet object	
EtherNet/IP Manufacturer specific object classes	0x64	Setup instructions	
EtherNet/IP Manufacturer specific object classes	0x65	Miscellaneous instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x66	Motion instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x67	I/O instruction variables and flags	
EtherNet/IP Manufacturer specific object classes	0x68	Position related instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x69	Encoder related instructions and flags ¹	
EtherNet/IP Manufacturer specific object classes	0x6A	hMTechnology specific instructions ¹	
Modbus/TCP Device ID	43/14d (0x2B/0x0E)	Read device identification	
Modbus/TCP Public function codes	02d (0x02)	Read digital inputs	
Modbus/TCP Public function codes	01d (0x01)	Read coils (digital outputs)	
Modbus/TCP Public function codes	05d (0x05)	Write single coil (digital output)	
Modbus/TCP Public function codes	03d (0x03)	Read holding register	
Modbus/TCP Public function codes	16d (0x10)	Write multiple registers	
Modbus/TCP Manufacturer specific function codes	65d (0x41)	Read I/O and trip configuration and parameters	
Modbus/TCP Manufacturer specific function codes	66d (0x42)	Write I/O and trip configuration and parameters enter upgrade mode.	
Modbus/TCP Profinet IO	Output	Slot 1	
Modbus/TCP Profinet IO	Size	128 Bytes	
Modbus/TCP Profinet IO	38	Registers	
Modbus/TCP Profinet IO	Input	Slot 2	

Software Specifications

Modbus/TCP Profinet IO	34	Registers
Modbus/TCP Profinet IO	Register mapping	Variable user defined

Name	Unit	Single Length	Double Length	Triple Length
Holding torque	Ncm	103	186	294
Rotor inertia	kgcm ²	0.18	0.22	0.37
Detent Torque	Ncm	2.7	10	15
Radial load limit	kg		6.8	
Axial Load Limit	kg		9	
Weight	g	748	885	1247



LH57 NEMA 23 Ethernet TCP/IP IP65 – High Torque

Compact integrated motor for industrial networks with EtherNet/IP, Profinet and Modbus. Feedback options include open loop, closed loop or absolute encoder with hMTechTechnology. Motor size: NEMA 23 (57 mm) Holding Torque range: 152 ... 416 oz-in (107 ... 294 N-cm) Input voltage: +12 to +60 VDC



<https://www.kocomotion.de/produkt/lh57-nema-23-ethernet-tcp-ip-ip65-high-torque/>



Specification	
Control type	Ethernet TCP/IP
Communications interface	Ethernet TCP/IP
Communications features	EtherNet/IP, Modbus/TCP, Profinet I/O, MCode OS
NEMA size	23 (57x57 mm)
Torque range	1,07 ... 2,94 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +60 +VDC
Power supply current requirement	3.5 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Power outputs open or closed loop number	2
Power outputs absolute encoder number	1
Power outputs voltage rating	-24 ... +24 +VDC
Power outputs current rating	-100 ... +100 mA
Power outputs protection	over temp, short circuit, transient, over voltage, inductive clamp
Power outputs isolation	Galvanic
Signal output current	1 ... 5.5 mA

I/O Specifications

Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA

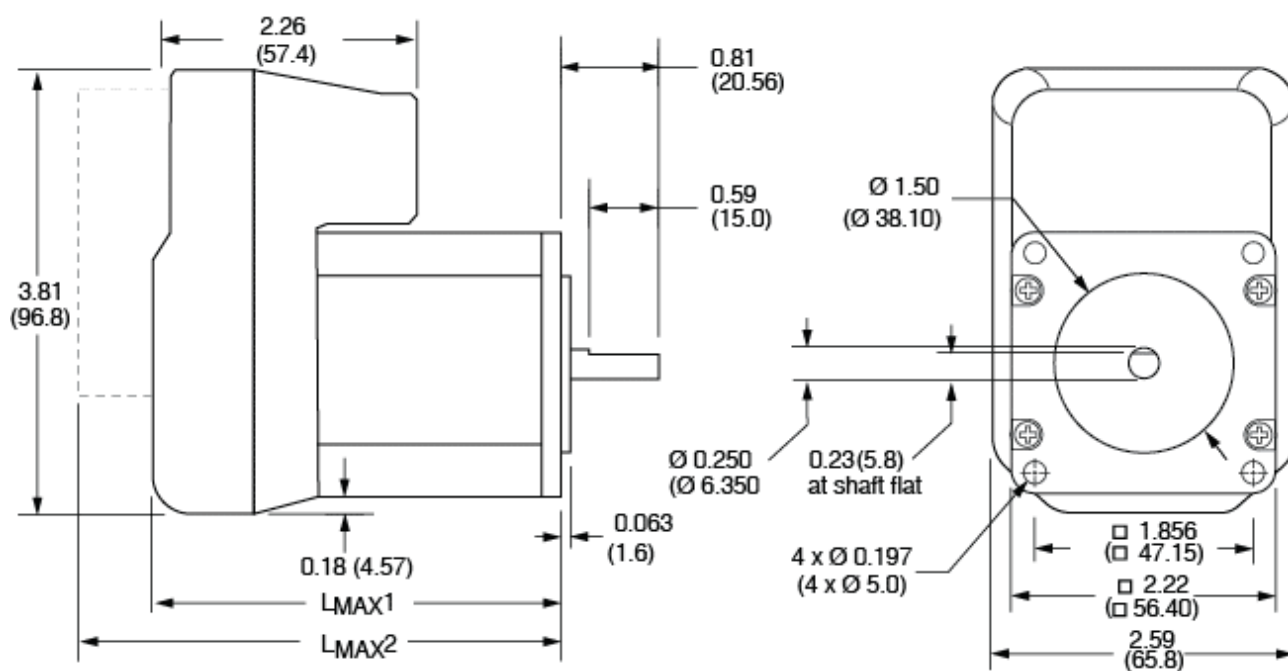
Closed Loop / Absolute Encoder												
Value				-								
Encoder type				Internal		magnetic						
Encoder resolution				Lines / Edges		1000 / 4000						
Absolute encoder: data retention on internal power				days		max. 30						
Absolute encoder: data retention on internal power with battery pack				5		years						
Counter resolution				32		bit						
hMTechnology OFF, encoder ON			Position maintenance			find index		stall detect				
hMTechnology ON, encoder OFF			Anti-stall		variable current control			torque mode				
Software Specifications												
Value				-								
MCode OS program storage				Type Flash								
MCode OS program storage				11,120 Bytes								
User registers (Integer)				4								
User registers (Floating point)				8								
User registers Length				32 bits								
Math				+	-	x	÷	>	=	=	>=	
Logic				AND		OR		XOR		NOT		
Trigonometric				ABS	COS	ACOS	LOG2	LOG10	PI	SIN	ASIN	SQRT
						TAN		ATAN				
Branch functions				Branch & call								
Input functions				Home	limit plus	limit minus	go	stop	pause	jog plus		
				jog minus		general purpose		capture				
Output functions				Moving	error	velocity change	stall	locked rotor	moving position			
				hMT active		make-up active		encoder A	encoder B	trip		
				attention. general purpose,								
Trip functions				Trip on input		trip on position		trip on time		trip capture		
				trip on relative position				trip on main power loss				
Encoder functions1				hMTechnology		stall detection		position maintenance		find index		
EtherNet/IP (ODVA Conformance Checked) Object model				0x01		Identity object						
EtherNet/IP (ODVA Conformance Checked) Object model				0x04		Assembly object (parameters mappable)						

Software Specifications			
EtherNet/IP (ODVA Conformance Checked) Object model	0xF5	TCP object	
EtherNet/IP (ODVA Conformance Checked) Object model	0xF6	Ethernet object	
EtherNet/IP Manufacturer specific object classes	0x64	Setup instructions	
EtherNet/IP Manufacturer specific object classes	0x65	Miscellaneous instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x66	Motion instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x67	I/O instruction variables and flags	
EtherNet/IP Manufacturer specific object classes	0x68	Position related instructions and flags	
EtherNet/IP Manufacturer specific object classes	0x69	Encoder related instructions and flags ¹	
EtherNet/IP Manufacturer specific object classes	0x6A	hMTechnology specific instructions ¹	
Modbus/TCP Device ID	43/14d (0x2B/0x0E)	Read device identification	
Modbus/TCP Public function codes	02d (0x02)	Read digital inputs	
Modbus/TCP Public function codes	01d (0x01)	Read coils (digital outputs)	
Modbus/TCP Public function codes	05d (0x05)	Write single coil (digital output)	
Modbus/TCP Public function codes	03d (0x03)	Read holding register	
Modbus/TCP Public function codes	16d (0x10)	Write multiple registers	
Modbus/TCP Manufacturer specific function codes	65d (0x41)	Read I/O and trip configuration and parameters	
Modbus/TCP Manufacturer specific function codes	66d (0x42)	Write I/O and trip configuration and parameters enter upgrade mode.	
Modbus/TCP Profinet IO	Output	Slot 1	
Modbus/TCP Profinet IO	Size	128 Bytes	
Modbus/TCP Profinet IO	38	Registers	
Modbus/TCP Profinet IO	Input	Slot 2	

Software Specifications

Modbus/TCP Profinet IO	34	Registers
Modbus/TCP Profinet IO	Register mapping	Variable user defined

Name	Unit	Single Length	Double Length	Triple Length
Holding torque	Ncm	107	186	294
Rotor inertia	kgcm ²	0.14	0.22	0.37
Detent Torque	Ncm	6.0	10	15
Radial load limit	kg		6.8	
Axial Load Limit	kg		9	
Weight	g	748	885	1247



LH57 NEMA 23 Programmable Motion Control IP20 - High Torque

Compact programmable integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 23 (57 mm) Holding Torque range: 152 ... 416 oz-in (107 ... 294 N-cm) Input voltage: +12 to +60 VDC



<https://www.kocomotion.de/produkt/lh57-nema-23-programmable-motion-control-ip20-high-torque/>



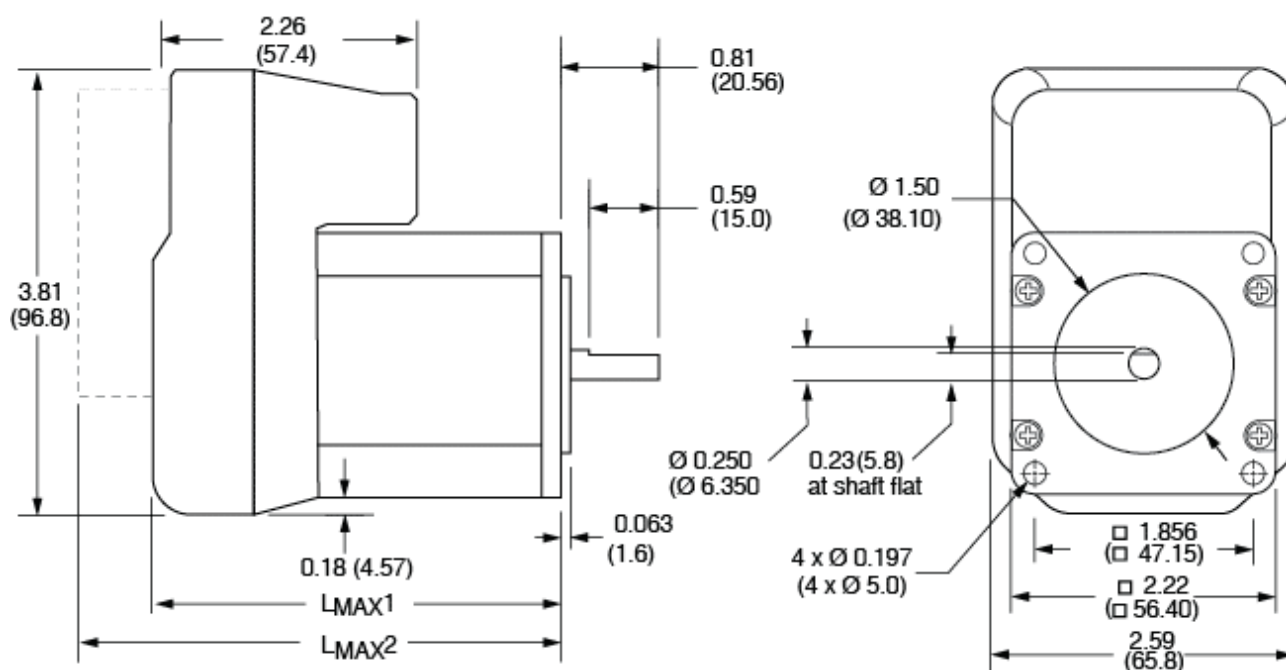
Specification	
Control type	Programmable Motion
Communications interface	RS-422/485
Communications features	MCode OS
NEMA size	23 (57x57 mm)
Torque range	1,07 ... 2,94 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None

Closed Loop / Absolute Encoder												
Value				-								
Encoder type				Internal		magnetic						
Encoder resolution				Lines / Edges		1000 / 4000						
Absolute encoder: data retention on internal power				days		max. 30						
Absolute encoder: data retention on internal power with battery pack				5		years						
Counter resolution				32		bit						
hMTechnology OFF, encoder ON				Position maintenance		find index		stall detect				
hMTechnology ON, encoder OFF				Anti-stall		variable current control		torque mode				
Software Specifications												
Value				-								
MCode OS program storage				Type Flash								
MCode OS program storage				11,120 Bytes								
Multidrop addresses				62								
User registers (Integer)				4								
User registers (Floating point)				8								
User registers Length				32 bits								
Math				+	-	x	÷	>	=	=	>=	
Logic				AND		OR		XOR		NOT		
Trigonometric				ABS	COS	ACOS	LOG2	LOG10	PI	SIN	ASIN	SQRT
							TAN	ATAN				
Branch functions				Branch & call								
Input functions				Home	limit plus	limit minus	go	stop	pause	jog plus		
					jog minus	general purpose	capture					
Output functions				Moving	error	velocity change	stall	locked rotor	moving position			
				hMT active	make-up active	encoder A	encoder B	trip				
				attention. general purpose,								
Trip functions				Trip on input	trip on position	trip on time	trip capture					
				trip on relative position		trip on main power loss						
Encoder functions1				hMTechnology	stall detection	position maintenance	find index					

Name	Unit	Single Length	Double Length	Triple Length
Holding torque	Ncm	107	186	294
Rotor inertia	kgcm ²	0.14	0.22	0.37
Detent Torque	Ncm	6.0	10	15
Radial load limit	kg		6.8	
Axial Load Limit	kg		9	
Weight	g	748	885	1247



LH57 NEMA 23 Programmable Motion Control IP65 - High Torque



Compact programmable integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 23 (57 mm) Holding Torque range: 152 ... 416 oz-in (107 ... 294 N-cm) Input voltage: +12 to +60 VDC



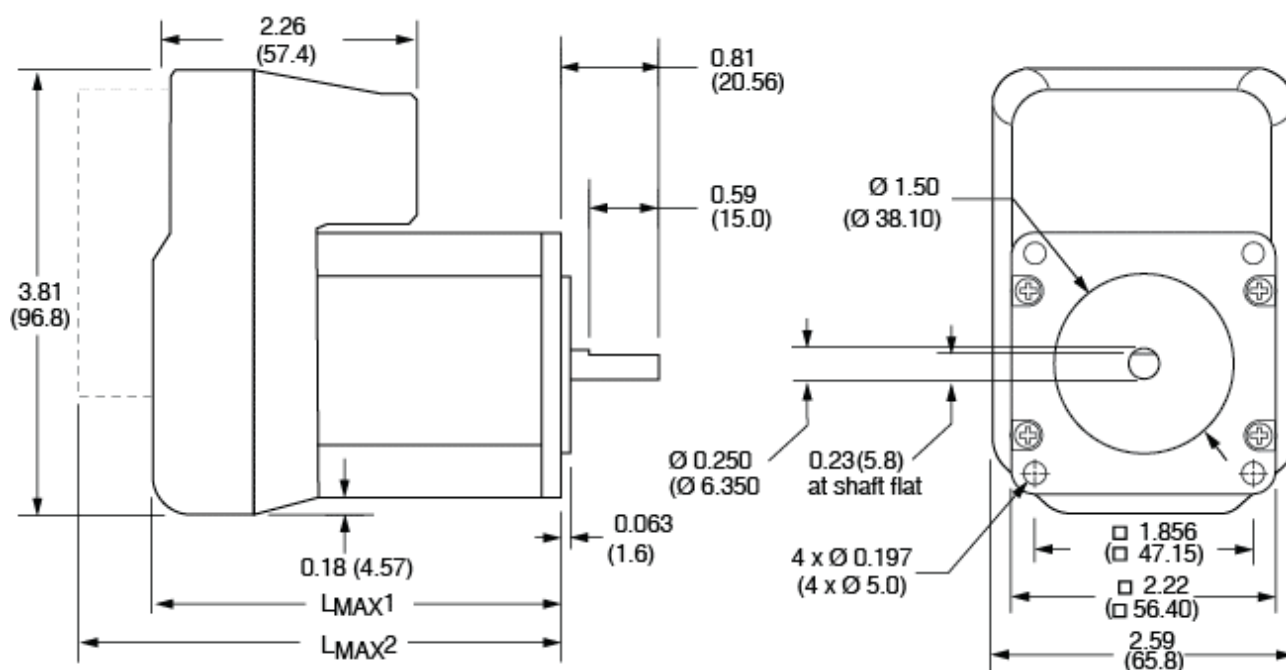
<https://www.kocomotion.de/produkt/lh57-nema-23-programmable-motion-control-ip65-high-torque/>

Specification	
Communications interface	RS-422/485
Communications features	MCode OS
NEMA size	23 (57x57 mm)
Torque range	1,07 ... 2,94 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max
Control type	Programmable Motion

Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²
I/O Specifications	
I/O functions	Programmable I/Os
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency	5 kHz
Signal input isolation	Galvanic
Signal input protection class	III
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
Analog input availability	Not available on LMD models with absolute encoder
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None

Closed Loop / Absolute Encoder												
Value				-								
Encoder type				Internal		magnetic						
Encoder resolution				Lines / Edges		1000 / 4000						
Absolute encoder: data retention on internal power				days		max. 30						
Absolute encoder: data retention on internal power with battery pack				5		years						
Counter resolution				32		bit						
hMTechnology OFF, encoder ON				Position maintenance		find index		stall detect				
hMTechnology ON, encoder OFF				Anti-stall		variable current control		torque mode				
Software Specifications												
Value				-								
MCode OS program storage				Type Flash								
MCode OS program storage				11,120 Bytes								
Multidrop addresses				62								
User registers (Integer)				4								
User registers (Floating point)				8								
User registers Length				32 bits								
Math				+	-	x	÷	>	=	=	>=	
Logic				AND		OR		XOR		NOT		
Trigonometric				ABS	COS	ACOS	LOG2	LOG10	PI	SIN	ASIN	SQRT
							TAN	ATAN				
Branch functions				Branch & call								
Input functions				Home	limit plus	limit minus	go	stop	pause	jog plus		
					jog minus	general purpose	capture					
Output functions				Moving	error	velocity change	stall	locked rotor	moving position			
				hMT active	make-up active	encoder A	encoder B	trip				
				attention. general purpose,								
Trip functions				Trip on input	trip on position	trip on time	trip capture					
				trip on relative position		trip on main power loss						
Encoder functions1				hMTechnology	stall detection	position maintenance	find index					

Name	Unit	Single Length	Double Length	Triple Length
Holding torque	Ncm	107	186	294
Rotor inertia	kgcm2	0.14	0.22	0.37
Detent Torque	Ncm	6.0	10	15
Radial load limit	kg		6.8	
Axial Load Limit	kg		9	
Weight	g	748	885	1247



LH57 NEMA 23 Pulse/direction IP20 - High Torque

Compact integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 23 (57 mm) Holding Torque range: 152 ... 416 oz-in (107 ... 294 N-cm) Input voltage: +12 to +60 VDC



<https://www.kocomotion.de/produkt/lh57-nema-23-pulse-direction-ip20-high-torque/>



Specification

Control type	Pulse/direction input
Communications interface	RS-422/485
Communications features	MCode OS
NEMA size	23 (57x57 mm)
Torque range	1,07 ... 2,94 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +60 +VDC
Power supply current requirement	3.5 A

Parameter settings

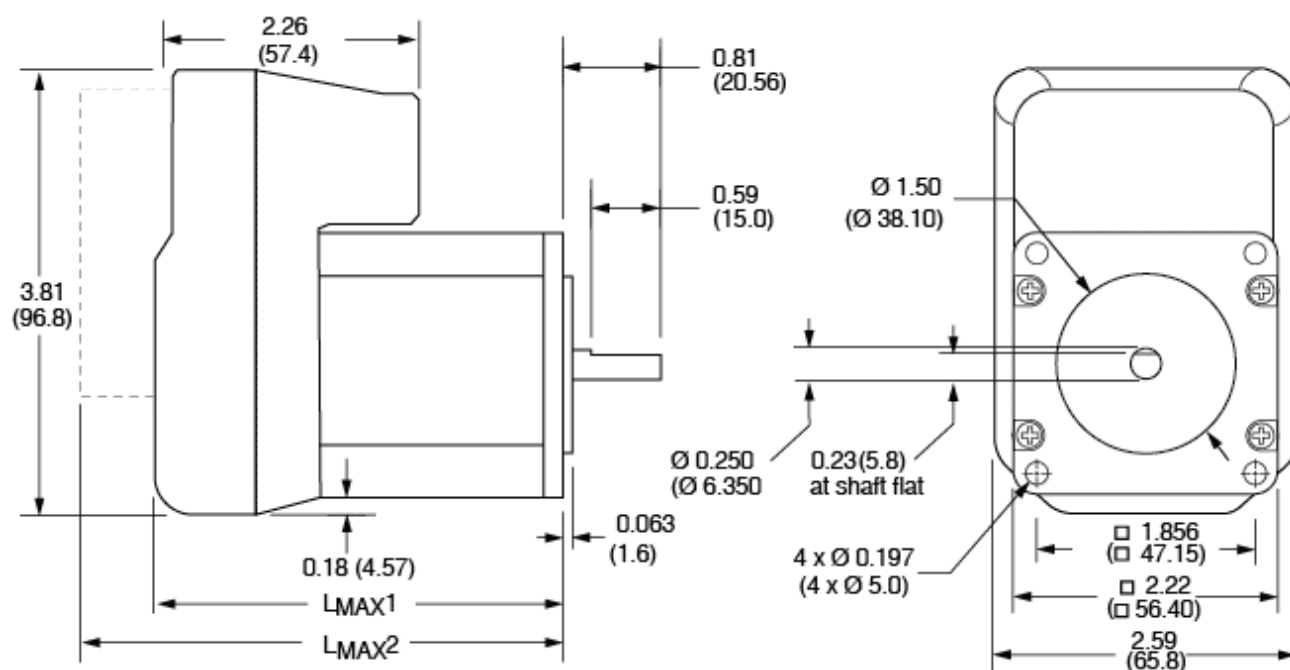
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Logic and I/O
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency pulse (step)	2.56 MHz
Signal input frequency quadrature	1.25 MHz
Signal input frequency enable	5 MHz (max.)
Signal input isolation	Galvanic
Signal input protection class	III
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications				
Value	-			
Microstep resolution	[steps/rev]	200 ... 51200		
Run current	[%]	1 ... 100		
Holding current	[%]	0 ... 100		
Hold current delay	[mSec]	0 ... 65535		
Clock modes	Step/dir	Quadrature	CW/CCW	
Motion input filter	[kHz ... MHz]	38.8 ... 10		
Enable input	Active state/filter			
Advanced operating modes	Pulse/direction	Speed Control	Commanded Velocity,Torque Control	
Advanced parameters	Common		RS-422/485	
Advanced parameters	Mode specific	I/O	Motion,Analog input	velocity
hMT modes	hMT OFF	fixed current	Variable current	Torque
Operation	Make-up position,Torque %			

Name	Unit	Single Length	Double Length	Triple Length
Holding torque	Ncm	107	186	294
Rotor inertia	kgcm ²	0.14	0.22	0.37
Detent Torque	Ncm	6.0	10	15
Radial load limit	kg		6.8	
Axial Load Limit	kg		9	
Weight	g	748	885	1247



LH57 NEMA 23 Pulse/direction IP65 - High Torque

Compact integrated motor with RS-422/485 communications interface. Feedback options include open loop, closed loop or absolute encoder with hMTechnology. Motor size: NEMA 23 (57 mm) Holding Torque range: 152 ... 416 oz-in (107 ... 294 N-cm) Input voltage: +12 to +60 VDC



<https://www.kocomotion.de/produkt/lh57-nema-23-pulse-direction-ip65-high-torque/>



Specification	
Control type	Pulse/direction input
Communications interface	RS-422/485
Communications features	MCode OS
NEMA size	23 (57x57 mm)
Torque range	1,07 ... 2,94 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65
Input voltage	+12 to +60 +VDC
Power supply current requirement	3.5 A
Parameter settings	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Counter type	Position 32-bit
Counter edge rate	5 MHz (max.)
Velocity range	± 2560000 ± 3000 steps/sec RPM
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²
I/O Specifications	

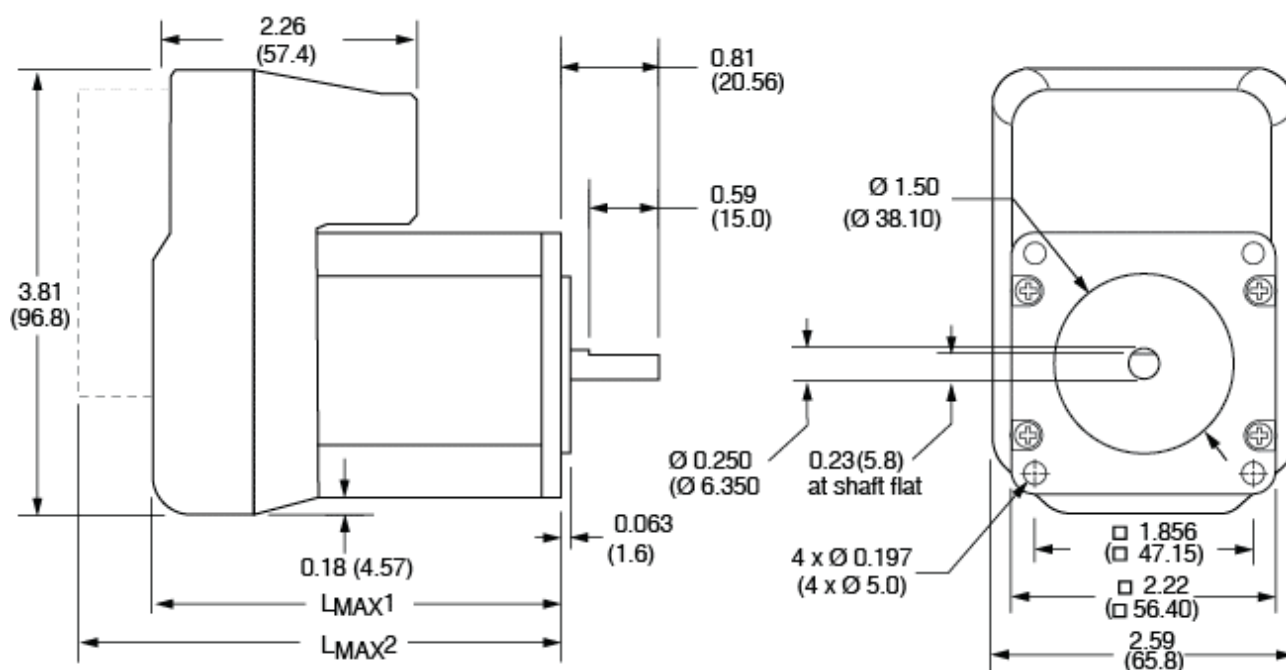
I/O functions	Logic and I/O
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency pulse (step)	2.56 MHz
Signal input frequency quadrature	1.25 MHz
Signal input frequency enable	5 MHz (max.)
Signal input isolation	Galvanic
Signal input protection class	III
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA
Analog input resolution	12 Bits
Analog input isolation	None
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic
I/O functions	Logic and I/O
Signal input voltage range	5 ... 24 +VDC
Signal input current	8.7 mA @ +5 VDC
Signal input current	14.6 mA @ +24 VDC
Signal input frequency pulse (step)	2.56 MHz
Signal input frequency quadrature	1.25 MHz
Signal input frequency enable	5 MHz (max.)
Signal input isolation	Galvanic
Signal input protection class	III
Analog input voltage mode	0 ... 5 0 ... 5 VDC
Analog input voltage mode	0 ... 10 0 ... 10 VDC
Analog input current loop mode	0 ... 20 mA

Analog input resolution	12 Bits
Analog input isolation	None
Signal output current	1 ... 5.5 mA
Signal output voltage open-collector	60 +VDC
Signal output voltage open-emitter	7 +VDC
Signal output current open-collector	5.5 mA
Signal output current open-emitter	5.5 mA
Signal output isolation	Galvanic

Closed Loop / Absolute Encoder			
Value	-		
Encoder type	Internal	magnetic	
Encoder resolution	Lines / Edges	1000 / 4000	
Counter resolution	32	bit	
hMTechnology OFF, encoder ON	Position maintenance	find index	stall detect
hMTechnology ON, encoder OFF	Anti-stall	variable current control	torque mode

Software Specifications				
Value		-		
Microstep resolution	[steps/rev]	200 ... 51200		
Run current	[%]	1 ... 100		
Holding current	[%]	0 ... 100		
Hold current delay	[mSec]	0 ... 65535		
Clock modes	Step/dir	Quadrature	CW/CCW	
Motion input filter	[kHz ... MHz]	38.8 ... 10		
Enable input	Active state/filter			
Advanced operating modes	Pulse/direction	Speed Control	Commanded Velocity,Torque Control	
Advanced parameters	Common	RS-422/485		
Advanced parameters	Mode specific	I/O	Motion,Analog input	velocity
hMT modes	hMT OFF	fixed current	Variable current	Torque
Operation	Make-up position,Torque %			

Name	Unit	Single Length	Double Length	Triple Length
Holding torque	Ncm	107	186	294
Rotor inertia	kgcm ²	0.14	0.22	0.37
Detent Torque	Ncm	6.0	10	15
Radial load limit	kg		6.8	
Axial Load Limit	kg		9	
Weight	g	748	885	1247



MDI1 NEMA 14

MDI1 NEMA 14 with

- Step/Direction(SPI)
- Motion Control (RS422/485)
- CANopen



<https://www.kocomotion.de/produkt/mdi1-nema-14/>



Produkte:

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MDI1 NEMA 14 Programmable Motion Control IP20

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MDI1 NEMA 14 Programmable Motion Control IP20



MDrive Plus NEMA size 14 (36 mm) Programmable Motion Control with RS422/485 communications interface for programming and control using MCode, a simple mnemonic language for MDrive products. This product features four 24 VDC programmable multifunction I/O points.. Holding torque range oz-in (N-cm): 18...36 (13 ... 25) I/O connector options: Wire Crimp Com connector: None



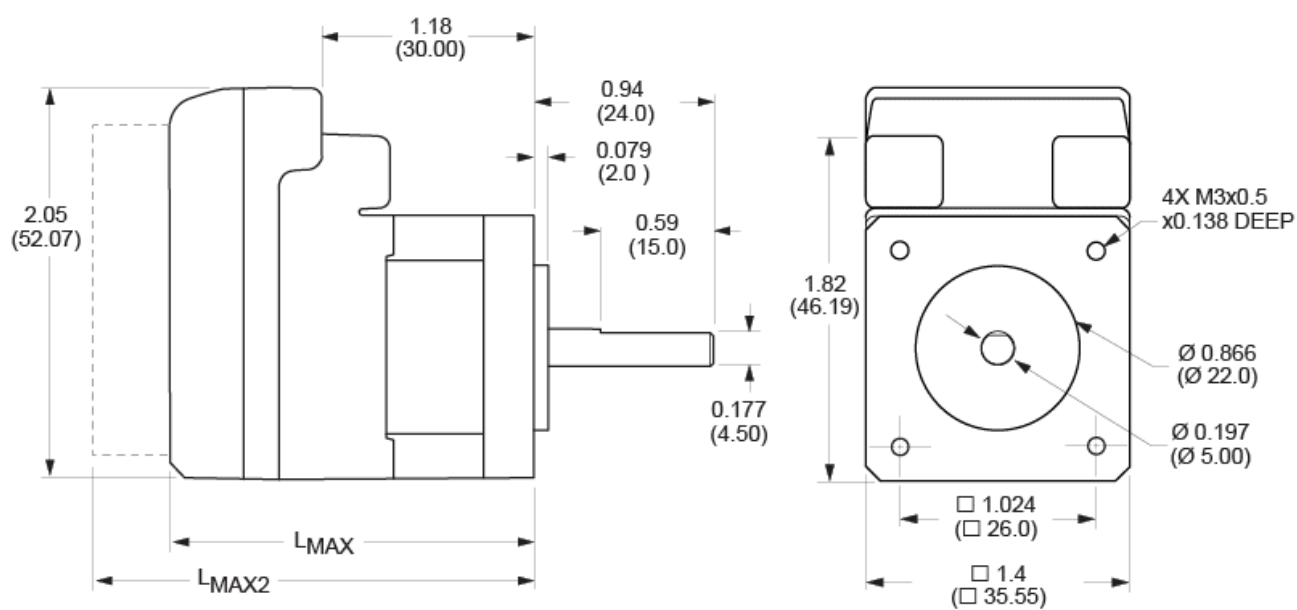
<https://www.kocomotion.de/produkt/mdi1-nema-14-programmable-motion-control-ip20/>

Specification	
Control type	Programmable Motion
Feature set	Standard(Plus)
P1 connector options	Wire Crimp Power & I/O
P2 connector options	None Comm
Communications interface	RS-422/485
Communications features	-
NEMA size	14 (36x36 mm)
Holding torque range	0.13 ... 0.25 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	1.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA

Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200



MDI3 NEMA 14

MDI3 NEMA 14 with

- Motion Control (RS485)
- CANopen



<https://www.kocomotion.de/produkt/mdi3-nema-14/>



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MDI3 NEMA 14 CANopen IP20

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MDI3 NEMA 14 Programmable Motion Control IP20

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MDI3 NEMA 14 CANopen IP20

MDrive Plus NEMA size 14 (36 mm) CANopen CAN bus 2.0b supporting CiA301 and CiA402. This product offers a choice of eight 24 VDC multifunction programmable I/O points + two TTL high speed clock I/O points, or four 24 VDC I/O with TTL inputs for a remote encoder for following or reading off-shaft differential encoder Holding torque range oz-in (N-cm): 18...36 (13 ... 25) I/O connector options: Wire Crimp Com connector: DB9



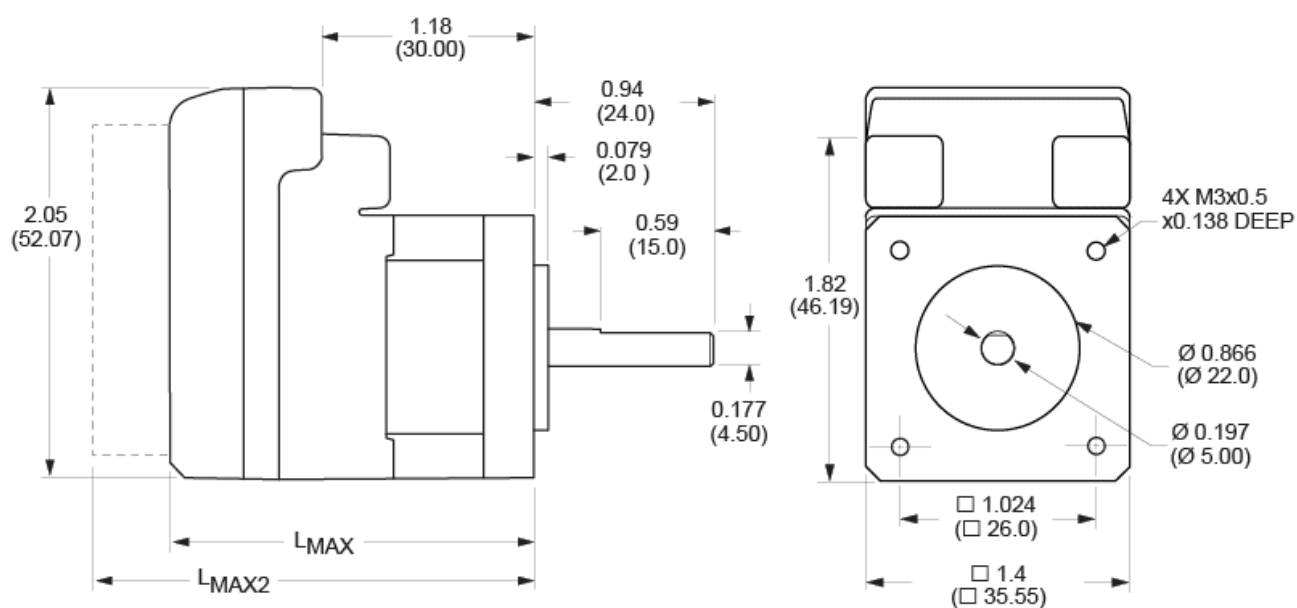
<https://www.kocomotion.de/produkt/mdi3-nema-14-canopen-ip20/>

Specification	
Control type	CANopen
Feature set	Standard(Plus)
P1 connector options	Wire Crimp Power & I/O
P2 connector options	DB9 Comm
Communications interface	RS-422/485
Communications features	CANopen DS301, DSP402
NEMA size	14 (36x36 mm)
Holding torque range	0.13 ... 0.25 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	1.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA

Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200



MDI3 NEMA 14 Programmable Motion Control IP20



MDrive Plus NEMA size 14 (36 mm) Programmable Motion Control with RS422/485 communications interface for programming and control using MCode, a simple mnemonic language for MDrive products. This product offers a choice of eight 24 VDC multifunction programmable I/O points + two TTL high speed clock I/O points, or four 24 VDC I/O with TTL inputs for a remote encoder for following or reading off-shaft differential encoder Holding torque range oz-in (N-cm): 18...36 (13 ... 25) I/O connector options: Wire Crimp Com connector: Wire Crimp



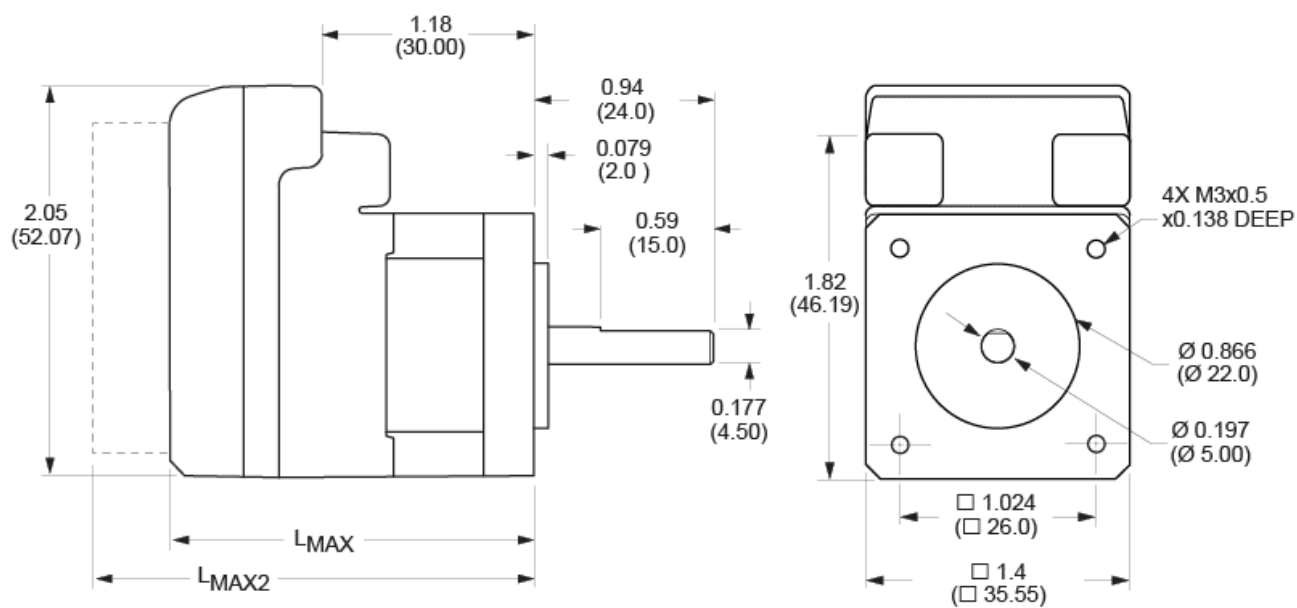
<https://www.kocomotion.de/produkt/mdi3-nema-14-programmable-motion-control-ip20/>

Specification	
Control type	Programmable Motion
Feature set	Standard(Plus)
P1 connector options	Wire Crimp Power & I/O
P2 connector options	Wire Crimp Comm
Communications interface	RS-422/485
Communications features	MCode OS, 4.8 ... 115.2 kbps baud rate
NEMA size	14 (36x36 mm)
Holding torque range	0.13 ... 0.25 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	1.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA

Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200



MDI3 NEMA 17

MDI3 NEMA 17 with

- Motion Control (RS485)
- CANopen



<https://www.kocomotion.de/produkt/mdi3-nema-17/>



Produkte:

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MDI3 NEMA 17 CANopen IP20

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MDI3 NEMA 17 Programmable Motion Control IP20

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MDI3 NEMA 17 CANopen IP20

MDrive Plus NEMA size 17 (42 mm) CANopen CAN bus 2.0b supporting CiA301 and CiA402. This product offers a choice of eight 24 VDC multifunction programmable I/O points + two TTL high speed clock I/O points, or four 24 VDC I/O with TTL inputs for a remote encoder for following or reading off-shaft differential encoder Holding torque range oz-in (N-cm): 23 ... 53 (23 ... 53) I/O connector options: Wire Crimp Com connector: DB9



<https://www.kocomotion.de/produkt/mdi3-nema-17-canopen-ip20/>

Specification	
Control type	CANopen
Feature set	Standard(Plus)
P1 connector options	Wire Crimp Power & I/O
P2 connector options	DB9 Comm
Communications interface	CANopen
Communications features	CANopen DS301, DSP402
NEMA size	17 (42x42 mm)
Holding torque range	0.23 ... 0.53 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA

Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200

MDI3 NEMA 17 Programmable Motion Control IP20

MDrive Plus NEMA size 17 (42 mm) Programmable Motion Control with RS422/485 communications interface for programming and control using MCode, a simple mnemonic language for MDrive products. This product offers a choice of eight 24 VDC multifunction programmable I/O points + two TTL high speed clock I/O points, or four 24 VDC I/O with TTL inputs for a remote encoder for following or reading off-shaft differential encoder Holding torque range oz-in (N-cm): 23 ... 53 (23 ... 53) I/O connector options: Wire Crimp Com connector: IDC, Wire Crimp



<https://www.kocomotion.de/produkt/mdi3-nema-17-programmable-motion-control-ip20/>



Specification	
Control type	Programmable Motion
Feature set	Standard(Plus)
P1 connector options	Wire Crimp Power & I/O
P2 connector options	IDC, Wire Crimp Comm
Communications interface	RS-422/485
Communications features	MCode OS, 4.8 ... 115.2 kbps baud rate
NEMA size	17 (42x42 mm)
Holding torque range	0.23 ... 0.53 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA

Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200

MDI4 NEMA 17

MDI4 NEMA 17 with

- Motion Control (RS485)
- CANopen



<https://www.kocomotion.de/produkt/mdi4-nema-17/>



Produkte:

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MDI4 NEMA 17 CANopen IP65

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MDI4 NEMA 17 Programmable Motion Control IP65

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MDI4 NEMA 17 CANopen IP65

MDrive Plus NEMA size 17 (42 mm) CANopen CAN bus 2.0b supporting CiA301 and CiA402. This product offers a choice of eight 24 VDC multifunction programmable I/O points + two TTL high speed clock I/O points, or four 24 VDC I/O with TTL inputs for a remote encoder for following or reading off-shaft differential encoder. Holding torque range oz-in (N-cm): 23 ... 53 (23 ... 53) I/O connector options: M23 Circular Com connector: M12 circular



<https://www.kocomotion.de/produkt/mdi4-nema-17-canopen-ip65/>

Specification	
Control type	CANopen
Feature set	Standard(Plus)
P1 connector options	M23 Circular Power & I/O
P2 connector options	M12 circular Comm
Communications interface	CANopen
Communications features	CANopen DS301, DSP402
NEMA size	17 (42x42 mm)
Holding torque range	0.23 ... 0.53 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²
I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA
Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200

MDI4 NEMA 17 Programmable Motion Control IP65

MDrive Plus NEMA size 17 (42 mm) Programmable Motion Control with RS422/485 communications interface for programming and control using MCode, a simple mnemonic language for MDrive products. This product offers a choice of eight 24 VDC multifunction programmable I/O points + two TTL high speed clock I/O points, or four 24 VDC I/O with TTL inputs for a remote encoder for following or reading off-shaft differential encoder. Holding torque range oz-in (N-cm): 23 ... 53 (23 ... 53) I/O connector options: M23 Circular Com connector: M12 circular



<https://www.kocomotion.de/produkt/mdi4-nema-17-programmable-motion-control-ip65/>

Specification	
Control type	Programmable Motion
Feature set	Standard(Plus)
P1 connector options	M23 Circular Power & I/O
P2 connector options	M12 circular Comm
Communications interface	RS-422/485
Communications features	MCode OS, 4.8 ... 115.2 kbps baud rate
NEMA size	17 (42x42 mm)
Holding torque range	0.23 ... 0.53 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65/54
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA

Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200

MDM2 NEMA 17

MDM2 NEMA 17 with

- Pulse/Direction



<https://www.kocomotion.de/produkt/mdm2-nema-17/>



Produkte:

MDM2 NEMA 17 Step/direction Input IP65

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MDM2 NEMA 17 Step/direction Input IP65

MDrive Plus NEMA size 17 (42 mm) Step/direction input with SPI interface for parameterization. Holding torque range oz-in (N-cm): 23 ... 53 (23 ... 53) I/O connector options: M23 Circular Com connector: None



<https://www.kocomotion.de/produkt/mdm2-nema-17-step-direction-input-ip65/>

Specification	
Control type	Step/direction input
Feature set	Clock and direction inputs
P1 connector options	M23 Circular Power & I/O
P2 connector options	None Comm
Communications interface	SPI
Communications features	-
NEMA size	17 (42x42 mm)
Holding torque range	0.23 ... 0.53 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP65/54
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A

Parameter settings	
Input Step, Direction & Enable voltage	5 ... 24 + VDC
Current	14.6 mA Max
Digital Filter Range	10 ... 38.8 MHz ... kHz
Step Frequency	5 MHz Max
Microstep Resolutions	200 ... 51200 Steps/Rev
Clock Types	-

MDM5 NEMA 17

MDM5 NEMA 17 with

- Pulse/Direction



<https://www.kocomotion.de/produkt/mdm5-nema-17/>



Produkte:

MDM5 NEMA 17 Step/direction Input IP20

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MDM5 NEMA 17 Step/direction Input IP20

MDrive Plus NEMA size 17 (42 mm) Step/direction input with SPI interface for parameterization. This product features TTL tolerant differential clock inputs for velocity and directional control. Holding torque range oz-in (N-cm): 23 ... 53 (23 ... 53) I/O connector options: Flying Leads, Pluggable, Wire Crimp Com connector: None



<https://www.kocomotion.de/produkt/mdm5-nema-17-step-direction-input-ip20/>



Specification	
Control type	Step/direction input
Feature set	Differential CW.CCW inputs
P1 connector options	Flying Leads, Pluggable, Wire Crimp Power & I/O
P2 connector options	None Comm
Communications interface	SPI
Communications features	-
NEMA size	17 (42x42 mm)
Holding torque range	0.23 ... 0.53 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A

Parameter settings	
Input CW +/- & CCW +/-voltage	5 + VDC
Current	11.7 mA Max
Digital Filter Range	10 ... 38.8 MHz ... kHz
Step Frequency	5 MHz Max
Microstep Resolutions	200 ... 51200 Steps/Rev
Clock Types	-

MDM1 NEMA 14

MDM1 NEMA 14 with

- Pulse/Direction



<https://www.kocomotion.de/produkt/mdm1-nema-14/>



Produkte:

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MDM1 NEMA 14 Step/direction Input IP20

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MDM1 NEMA 14 Step/direction Input IP20



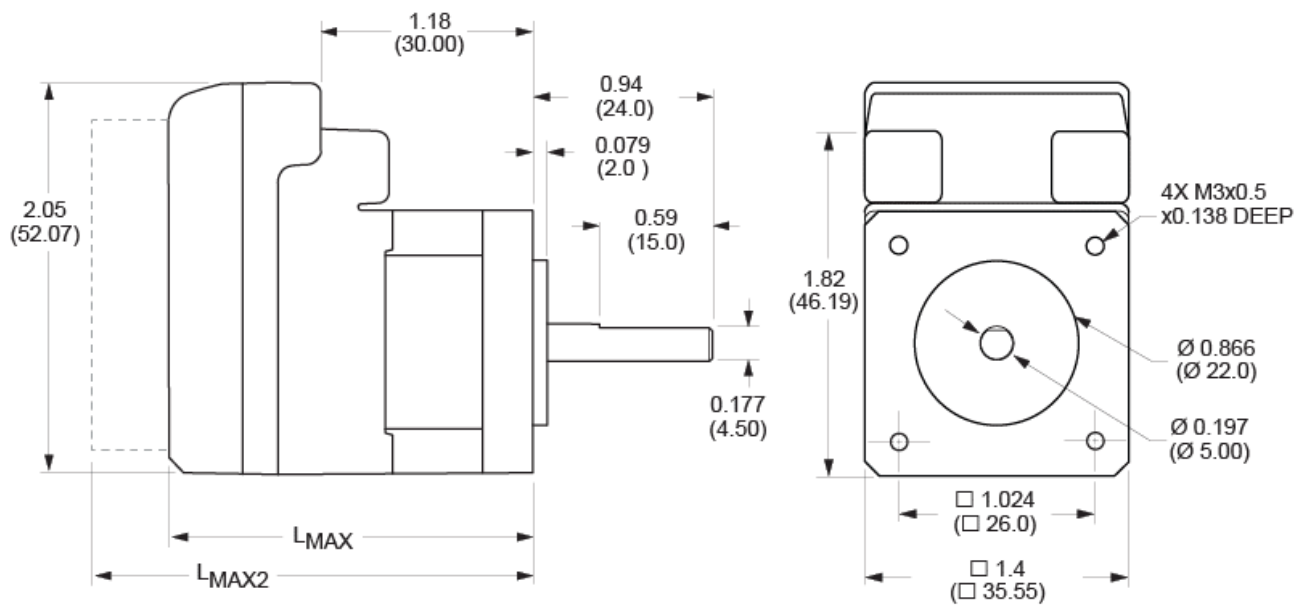
MDrive Plus NEMA size 14 (36 mm) Step/direction input with SPI interface for parameterization. This product features 24 VDC optically isolated step and direction inputs. Holding torque range oz-in (N-cm): 18...36 (13 ... 25) I/O connector options: Wire Crimp Com connector: None



<https://www.kocomotion.de/produkt/mdm1-nema-14-step-direction-input-ip20/>

Specification	
Control type	Step/direction input
Feature set	Clock and direction inputs
P1 connector options	Wire Crimp Power & I/O
P2 connector options	None Comm
Communications interface	SPI
Communications features	-
NEMA size	14 (36x36 mm)
Holding torque range	0.13 ... 0.25 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	1.0 A

Parameter settings	
Input Step, Direction & Enable voltage	5 ... 24 + VDC
Current	14.6 mA Max
Digital Filter Range	10 ... 38.8 MHz ... kHz
Step Frequency	5 MHz Max
Microstep Resolutions	200 ... 51200 Steps/Rev
Clock Types	-



MDM5 NEMA 14

MDM5 NEMA 14 with

- Pulse/Direction



<https://www.kocomotion.de/produkt/mdm5-nema-14/>



Produkte:

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MDM5 NEMA 14 Step/direction Input IP20

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MDM5 NEMA 14 Step/direction Input IP20



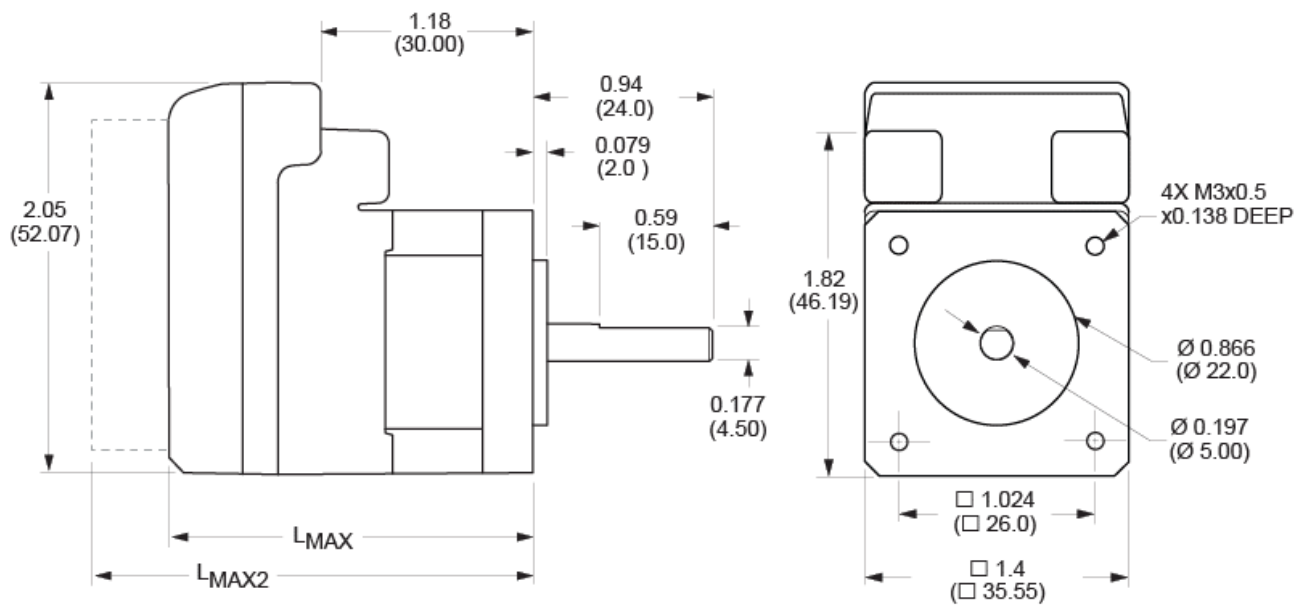
MDrive Plus NEMA size 14 (36 mm) Step/direction input with SPI interface for parameterization. This product features TTL tolerant differential clock inputs for velocity and directional control. Holding torque range oz-in (N-cm): 18...36 (13 ... 25) I/O connector options: Wire Crimp Com connector: None



<https://www.kocomotion.de/produkt/mdm5-nema-14-step-direction-input-ip20/>

Specification	
Control type	Step/direction input
Feature set	Differential CW.CCW inputs
P1 connector options	Wire Crimp Power & I/O
P2 connector options	None Comm
Communications interface	SPI
Communications features	-
NEMA size	14 (36x36 mm)
Holding torque range	0.13 ... 0.25 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	1.0 A

Parameter settings	
Input CW +/- & CCW +/- voltage	5 + VDC
Current	11.7 mA Max
Digital Filter Range	10 ... 38.8 MHz ... kHz
Step Frequency	5 MHz Max
Microstep Resolutions	200 ... 51200 Steps/Rev
Clock Types	-



MDM1 NEMA 17

MDM1 NEMA 17 with

- Pulse/Direction(SPI)



<https://www.kocomotion.de/produkt/mdm1-nema-17/>



Produkte:

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MDM1 NEMA 17 Step/direction Input IP20

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MDM1 NEMA 17 Step/direction Input IP20

MDrive Plus NEMA size 17 (42 mm) Step/direction input with SPI interface for parameterization. This product features 24 VDC optically isolated step and direction inputs. Holding torque range oz-in (N-cm): 23 ... 53 (23 ... 53) I/O connector options: Flying Leads, Pluggable, Wire Crimp Com connector: None



<https://www.kocomotion.de/produkt/mdm1-nema-17-step-direction-input-ip20/>



Specification	
Control type	Step/direction input
Feature set	Clock and direction inputs
P1 connector options	Flying Leads, Pluggable, Wire Crimp Power & I/O
P2 connector options	None Comm
Communications interface	SPI
Communications features	-
NEMA size	17 (42x42 mm)
Holding torque range	0.23 ... 0.53 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A

Parameter settings	
Input Step, Direction & Enable voltage	5 ... 24 + VDC
Current	14.6 mA Max
Digital Filter Range	10 ... 38.8 MHz ... kHz
Step Frequency	5 MHz Max
Microstep Resolutions	200 ... 51200 Steps/Rev
Clock Types	-

MDO1 NEMA 17

MDO1 NEMA 17 with

- Pulse/Direction
- Motion Control (RS485)
- CANopen
- Ethernet (MCode, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/mdo1-nema-17/>



Produkte:

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MDO1 NEMA 17 Speed Control IP20

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MD01 NEMA 17 Speed Control IP20

MDrive Plus NEMA size 17 (42 mm) Speed Control with SPI for parameterization.
Holding torque range oz-in (N-cm): 23 ... 53 (23 ... 53) I/O connector options: Flying Leads, Pluggable Com connector: IDC, Wire Crimp



<https://www.kocomotion.de/produkt/mdo1-nema-17-speed-control-ip20/>



Specification	
Control type	Step Control
Feature set	Standard (Plus)
P1 connector options	Flying Leads, Pluggable Power & I/O
P2 connector options	IDC, Wire Crimp Comm
Communications interface	SPI
Communications features	-
NEMA size	17 (42x42 mm)
Holding torque range	0.23 ... 0.53 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +48 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA

Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200

MDI3 NEMA 23

MDI3 NEMA 23 with

- Pulse/Direction
- Motion Control (RS485)
- CANopen
- Ethernet (MCode, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/mdi3-nema-23/>



Produkte:

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MDI3 NEMA 23 CANopen IP20

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MDI3 NEMA 23 Programmable Motion Control IP20

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MDI3 NEMA 23 CANopen IP20

MDrive Plus NEMA size 23 (57 mm) CANopen CAN bus 2.0b supporting CiA301 and CiA402. This product offers a choice of eight 24 VDC multifunction programmable I/O points + two TTL high speed clock I/O points, or four 24 VDC I/O with TTL inputs for a remote encoder for following or reading off-shaft differential encoder Holding torque range oz-in (N-cm): 90 ...283 (64 ... 200) I/O connector options: Wire Crimp Com connector: DB9



<https://www.kocomotion.de/produkt/mdi3-nema-23-canopen-ip20/>

Specification	
Control type	CANopen
Feature set	Standard(Plus)
P1 connector options	Wire Crimp Power & I/O
P2 connector options	DB9 Comm
Communications interface	CANopen
Communications features	CANopen DS301, DSP402
NEMA size	23 (57x57 mm)
Holding torque range	0.64 ... 2.00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +75 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA

Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200

MDI3 NEMA 23 Programmable Motion Control IP20



MDrive Plus NEMA size 23 (57 mm) Programmable Motion Control with RS422/485 communications interface for programming and control using MCode, a simple mnemonic language for MDrive products. This product offers a choice of eight 24 VDC multifunction programmable I/O points + two TTL high speed clock I/O points, or four 24 VDC I/O with TTL inputs for a remote encoder for following or reading off-shaft differential encoder Holding torque range oz-in (N-cm): 90 ...283 (64 ... 200) I/O connector options: Wire Crimp Com connector: IDC, Wire Crimp



<https://www.kocomotion.de/produkt/mdi3-nema-23-programmable-motion-control-ip20/>

Specification	
Control type	Programmable Motion
Feature set	Standard(Plus)
P1 connector options	Wire Crimp Power & I/O
P2 connector options	IDC, Wire Crimp Comm
Communications interface	RS-422/485
Communications features	MCode OS, 4.8 ... 115.2 kbps baud rate
NEMA size	23 (57x57 mm)
Holding torque range	0.64 ... 2.00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +75 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA

Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200

MDM1 NEMA 34

MDM1 NEMA 34 with

- Pulse/Direction
- Motion Control (RS485)
- CANopen
- Ethernet (MCode, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/mdm1-nema-34/>



Produkte:

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MDM1 NEMA 34 Step/direction Input IP20

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MDM1 NEMA 34 Step/direction Input IP20

MDrive Plus NEMA size 34 (85 mm) Step/direction input with SPI interface for parameterization. This product features 24 VDC optically isolated step and direction inputs. Holding torque range oz-in (N-cm): 408 ... 1090 (288 ... 770) I/O connector options: Flying Leads, Pluggable, Wire Crimp Com connector: None



<https://www.kocomotion.de/produkt/mdm1-nema-34-step-direction-input-ip20/>



Specification	
Control type	Step/direction input
Feature set	Clock and direction inputs
P1 connector options	Flying Leads, Pluggable, Wire Crimp Power & I/O
P2 connector options	None Comm
Communications interface	SPI
NEMA size	34 (85x85 mm)
Holding torque range	2.88 ... 7.70 Nm
Temperature heatsink (short-time)	max. 75 °C
IP rating	IP20
Input voltage	+12 to +75 +VDC
Power supply current requirement	4.0 A

Parameter settings	
Input Step, Direction & Enable voltage	5 ... 24 + VDC
Current	14.6 mA Max
Digital Filter Range	10 ... 38.8 MHz ... kHz
Step Frequency	5 MHz Max
Microstep Resolutions	200 ... 51200 Steps/Rev
Clock Types	-

MDM2 NEMA 34

MDM2 NEMA 34 with

- Pulse/Direction
- Motion Control (RS485)
- CANopen
- Ethernet (MCode, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/mdm2-nema-34/>



Produkte:

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MDM2 NEMA 34 AC Step/direction Input IP54

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MDM2 NEMA 34 AC

Step/direction Input IP54

MDrive Plus NEMA size Step/direction input with SPI interface for parameterization.
Holding torque range oz-in (N-cm): 330 ... 750 (233 ... 529) I/O connector options:
M23 Circular Com connector: None



<https://www.kocomotion.de/produkt/mdm2-nema-34-ac-step-direction-input-ip54/>



Specification

Control type	Step/direction input
Feature set	Clock and direction inputs
P1 connector options	M23 Circular Power & I/O
P2 connector options	None Comm
Communications interface	SPI
NEMA size	34 (85x85 mm)
Holding torque range	2.33 ... 5.29 Nm
Temperature heatsink (short-time)	max. 75 °C
IP rating	IP65/54
Input voltage	+95 to +132 +VDC
Power supply current requirement	-

Parameter settings

Input Step, Direction & Enable voltage	5 ... 24 + VDC
Current	14.6 mA Max
Digital Filter Range	10 ... 38.8 MHz ... kHz
Step Frequency	5 MHz Max
Microstep Resolutions	200 ... 51200 Steps/Rev
Clock Types	-

MDI4 NEMA 23

MDI4 NEMA 23 with

- Pulse/Direction
- Motion Control (RS485)
- CANopen
- Ethernet (MCode, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/mdi4-nema-23/>



Produkte:

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MDI4 NEMA 23 CANopen IP65

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MDI4 NEMA 23 Programmable Motion Control IP65

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MDI4 NEMA 23 CANopen IP65

MDrive Plus NEMA size 23 (57 mm) CANopen CAN bus 2.0b supporting CiA301 and CiA402. This product offers a choice of eight 24 VDC multifunction programmable I/O points + two TTL high speed clock I/O points, or four 24 VDC I/O with TTL inputs for a remote encoder for following or reading off-shaft differential encoder. Holding torque range oz-in (N-cm): 90 ... 283 (64 ... 200) I/O connector options: M23 Circular Com connector: M12 circular



<https://www.kocomotion.de/produkt/mdi4-nema-23-canopen-ip65/>



Specification	
Control type	CANopen
Feature set	Standard(Plus)
P1 connector options	M23 Circular Power & I/O
P2 connector options	M12 circular Comm
Communications interface	CANopen
Communications features	CANopen DS301, DSP402
NEMA size	23 (57x57 mm)
Holding torque range	0.64 ... 2.00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +75 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA

Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200

MDI4 NEMA 23 Programmable Motion Control IP65



MDrive Plus NEMA size 23 (57 mm) Programmable Motion Control with RS422/485 communications interface for programming and control using MCode, a simple mnemonic language for MDrive products. This product offers a choice of eight 24 VDC multifunction programmable I/O points + two TTL high speed clock I/O points, or four 24 VDC I/O with TTL inputs for a remote encoder for following or reading off-shaft differential encoder. Holding torque range 0.64 ... 2.00 Nm (N-cm): 90 ... 283 (64 ... 200) I/O connector options: M23 Circular Com connector: M12 circular



<https://www.kocomotion.de/produkt/mdi4-nema-23-programmable-motion-control-ip65/>

Specification	
Control type	Programmable Motion
Feature set	Standard(Plus)
P1 connector options	M23 Circular Power & I/O
P2 connector options	M12 circular Comm
Communications interface	RS-422/485
Communications features	MCode OS, 4.8 ... 115.2 kbps baud rate
NEMA size	23 (57x57 mm)
Holding torque range	0.64 ... 2.00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +75 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA

Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200

MD01 NEMA 34

MD01 NEMA 34 with

- Pulse/Direction
- Motion Control (RS485)
- CANopen
- Ethernet (MCode, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/mdo1-nema-34/>



Produkte:

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MD01 NEMA 34 Speed Control IP20

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MDO1 NEMA 34 Speed Control IP20

MDrive Plus NEMA size 34 (85 mm) Speed Control with SPI for parameterization.
Holding torque range oz-in (N-cm): 408 ... 1090 (288 ... 770) I/O connector options:
Flying Leads, Wire Crimp Com connector: IDC, Wire Crimp



<https://www.kocomotion.de/produkt/mdo1-nema-34-speed-control-ip20/>



Specification	
Control type	Step Control
Feature set	Standard (Plus)
P1 connector options	Flying Leads, Pluggable Power & I/O
P2 connector options	IDC, Wire Crimp Comm
Communications interface	SPI
NEMA size	34 (85x85 mm)
Holding torque range	2.88 ... 7.70 Nm
Temperature heatsink (short-time)	max. 75 °C
IP rating	IP20
Input voltage	+12 to +75 +VDC
Power supply current requirement	4.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	± 5,000.000 steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA
Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200

MDM1 NEMA 23

MDM1 NEMA 23 with

- Pulse/Direction
- Motion Control (RS485)
- CANopen
- Ethernet (MCode, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/mdm1-nema-23/>



Produkte:

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MDM1 NEMA 23 Step/direction Input IP20

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MDM1 NEMA 23 Step/direction Input IP20

MDrive Plus NEMA size 23 (57 mm) Step/direction input with SPI interface for parameterization. This product features 24 VDC optically isolated step and direction inputs. Holding torque range oz-in (N-cm): 90 ...283 (64 ... 200) I/O connector options: Flying Leads, Pluggable, Wire Crimp Com connector: None



<https://www.kocomotion.de/produkt/mdm1-nema-23-step-direction-input-ip20/>



Specification	
Control type	Step/direction input
Feature set	Clock and direction inputs
P1 connector options	Flying Leads, Pluggable, Wire Crimp Power & I/O
P2 connector options	None Comm
Communications interface	SPI
NEMA size	23 (57x57 mm)
Holding torque range	0.64 ... 2.00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +75 +VDC
Power supply current requirement	2.0 A

Parameter settings	
Input Step, Direction & Enable voltage	5 ... 24 + VDC
Current	14.6 mA Max
Digital Filter Range	10 ... 38.8 MHz ... kHz
Step Frequency	5 MHz Max
Microstep Resolutions	200 ... 51200 Steps/Rev
Clock Types	-

MDM2 NEMA 23

MDM2 NEMA 23 with

- Pulse/Direction
- Motion Control (RS485)
- CANopen
- Ethernet (MCode, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/mdm2-nema-23/>



Produkte:

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MDM2 NEMA 23 Step/direction Input IP65

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MDM2 NEMA 23 Step/direction Input IP65

MDrive Plus NEMA size 23 (57 mm) Step/direction input with SPI interface for parameterization. Holding torque range oz-in (N-cm): 90 ...283 (64 ... 200) I/O connector options: M23 Circular Com connector: None



<https://www.kocomotion.de/produkt/mdm2-nema-23-step-direction-input-ip65/>



Specification	
Control type	Step/direction input
Feature set	Clock and direction inputs
P1 connector options	M23 Circular Power & I/O
P2 connector options	None Comm
Communications interface	SPI
NEMA size	23 (57x57 mm)
Holding torque range	0.64 ... 2.00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +75 +VDC
Power supply current requirement	2.0 A
Parameter settings	
Input Step, Direction & Enable voltage	5 ... 24 + VDC
Current	14.6 mA Max
Digital Filter Range	10 ... 38.8 MHz ... kHz
Step Frequency	5 MHz Max
Microstep Resolutions	200 ... 51200 Steps/Rev
Clock Types	-

MDM5 NEMA 23

MDM5 NEMA 23 with

- Pulse/Direction
- Motion Control (RS485)
- CANopen
- Ethernet (MCode, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/mdm5-nema-23/>



Produkte:

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MDM5 NEMA 23 Step/direction Input IP20

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MDM5 NEMA 23 Step/direction Input IP20

MDrive Plus NEMA size 23 (57 mm) Step/direction input with SPI interface for parameterization. This product features TTL tolerant differential clock inputs for velocity and directional control. Holding torque range oz-in (N-cm): 90 ...283 (64 ... 200) I/O connector options: Flying Leads, Pluggable, Wire Crimp Com connector: None



<https://www.kocomotion.de/produkt/mdm5-nema-23-step-direction-input-ip20/>



Specification	
Control type	Step/direction input
Feature set	Differential CW.CCW inputs
P1 connector options	Flying Leads, Pluggable, Wire Crimp Power & I/O
P2 connector options	None Comm
Communications interface	SPI
NEMA size	23 (57x57 mm)
Holding torque range	0.64 ... 2.00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +75 +VDC
Power supply current requirement	2.0 A
Parameter settings	
Input CW +/- & CCW +/-voltage	5 + VDC
Current	11.7 mA Max
Digital Filter Range	10 ... 38.8 MHz ... kHz
Step Frequency	5 MHz Max
Microstep Resolutions	200 ... 51200 Steps/Rev
Clock Types	-

MD01 NEMA 23

MD01 NEMA 23 with

- Pulse/Direction
- Motion Control (RS485)
- CANopen
- Ethernet (MCode, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/mdo1-nema-23/>



Produkte:

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MD01 NEMA 23 Speed Control IP20

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MDO1 NEMA 23 Speed Control IP20

MDrive Plus NEMA size 23 (57 mm) Speed Control with SPI for parameterization.
Holding torque range oz-in (N-cm): 90 ...283 (64 ... 200) I/O connector options: Flying Leads, Pluggable Com connector: IDC, Wire Crimp



<https://www.kocomotion.de/produkt/mdo1-nema-23-speed-control-ip20/>



Specification	
Control type	Step Control
Feature set	Standard (Plus)
P1 connector options	Flying Leads, Pluggable Power & I/O
P2 connector options	IDC, Wire Crimp Comm
Communications interface	SPI
NEMA size	23 (57x57 mm)
Holding torque range	0.64 ... 2.00 Nm
Temperature heatsink (short-time)	max. 85 °C
IP rating	IP20
Input voltage	+12 to +75 +VDC
Power supply current requirement	2.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	± 5,000.000 steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5 X 10 ⁹ steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA
Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200

MDI1 NEMA 34

MDI1 NEMA 34 with

- Pulse/Direction
- Motion Control (RS485)
- CANopen
- Ethernet (MCode, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/mdi1-nema-34/>



Produkte:

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MDI1 NEMA 34 Programmable Motion Control IP20

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MDI1 NEMA 34 Programmable Motion Control IP20

MDrive Plus NEMA size 34 (85 mm) Programmable Motion Control with RS422/485 communications interface for programming and control using MCode, a simple mnemonic language for MDrive products. This product features four 24 VDC programmable multifunction I/O points.. Holding torque range oz-in (N-cm): 408 ... 1090 (288 ... 770) I/O connector options: Flying Leads, Pluggable Com connector: IDC, Wire Crimp



<https://www.kocomotion.de/produkt/mdi1-nema-34-programmable-motion-control-ip20/>



Specification	
Control type	Programmable Motion
Feature set	Standard(Plus)
P1 connector options	Flying Leads, Pluggable Power & I/O
P2 connector options	IDC, Wire Crimp Comm
Communications interface	RS-422/485
Communications features	-
NEMA size	34 (85x85 mm)
Holding torque range	2.88 ... 7.70 Nm
Temperature heatsink (short-time)	max. 75 °C
IP rating	IP20
Input voltage	+12 to +75 +VDC
Power supply current requirement	4.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA

Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200

MDI3 NEMA 34

MDI3 NEMA 34 with

- Pulse/Direction
- Motion Control (RS485)
- CANopen
- Ethernet (MCode, Modbus TCP, Ethernet IP, Profinet I/O)



<https://www.kocomotion.de/produkt/mdi3-nema-34/>



Produkte:

Seite

MDI3 NEMA 34 CANopen IP20

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MDI3 NEMA 34 Programmable Motion Control IP20

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MDI3 NEMA 34 CANopen IP20

MDrive Plus NEMA size 34 (85 mm) CANopen CAN bus 2.0b supporting CiA301 and CiA402. This product offers a choice of eight 24 VDC multifunction programmable I/O points + two TTL high speed clock I/O points, or four 24 VDC I/O with TTL inputs for a remote encoder for following or reading off-shaft differential encoder Holding torque range oz-in (N-cm): 408 ... 1090 (288 ... 770) I/O connector options: Wire Crimp Com connector: DB9



<https://www.kocomotion.de/produkt/mdi3-nema-34-canopen-ip20/>



Specification	
Control type	CANopen
Feature set	Standard(Plus)
P1 connector options	Wire Crimp Power & I/O
P2 connector options	DB9 Comm
Communications interface	CANopen
Communications features	CANopen DS301, DSP402
NEMA size	34 (85x85 mm)
Holding torque range	2.88 ... 7.70 Nm
Temperature heatsink (short-time)	max. 75 °C
IP rating	IP20
Input voltage	+12 to +75 +VDC
Power supply current requirement	4.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isolation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Capture input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA

Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200

MDI3 NEMA 34 Programmable Motion Control IP20

MDrive Plus NEMA size 34 (85 mm) Programmable Motion Control with RS422/485 communications interface for programming and control using MCode, a simple mnemonic language for MDrive products. This product offers a choice of eight 24 VDC multifunction programmable I/O points + two TTL high speed clock I/O points, or four 24 VDC I/O with TTL inputs for a remote encoder for following or reading off-shaft differential encoder Holding torque range oz-in (N-cm): 408 ... 1090 (288 ... 770) I/O connector options: Wire Crimp Com connector: IDC, Wire Crimp



<https://www.kocomotion.de/produkt/mdi3-nema-34-programmable-motion-control-ip20/>



Specification	
Control type	Programmable Motion
Feature set	Standard(Plus)
P1 connector options	Wire Crimp Power & I/O
P2 connector options	IDC, Wire Crimp Comm
Communications interface	RS-422/485
Communications features	MCode OS, 4.8 ... 115.2 kbps baud rate
NEMA size	34 (85x85 mm)
Holding torque range	2.88 ... 7.70 Nm
Temperature heatsink (short-time)	max. 75 °C
IP rating	IP20
Input voltage	+12 to +75 +VDC
Power supply current requirement	4.0 A
Aux-logic supply voltage	12 ... 24 +VDC
Aux-Logic Supply Current	194 mA max

Parameter settings	
Counter type	Position and Encoder
Counter Resolution	32 Bits
Counter edge rate	5 MHz
Velocity range	$\pm 5,000.000$ steps/sec
Velocity resolution	0.5961 steps/sec
Accel/Decel range	1.5×10^9 steps/sec ²
Accel/Decel resolution	90.9 steps/sec ²

I/O Specifications	
I/O functions	Programmable I/Os
# of I/O	4 I/O points, programmable as sinking outputs or sinking and sourcing inputs
Logic Range	Inputs and outputs tolerant to +24 VDC, inputs TTL compatible
Output Sink Current	Up to 600 mA per channel
Isoation	None
Protection	Over temp, short circuit, transient over voltage, over voltage, inductive clamp
Dedicated I/O function	Caputure input, trip output
Logic range	0 to +5 VDC, TTL compatible
Analog input resolution	10 Bits
Range (selectable)	0 to +5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA

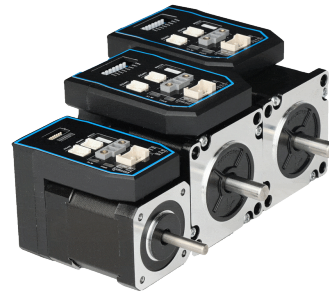
Open Loop / Absolute Encoder	
Microstep resolution	20 # of settings
Microstep resolution	200 ... 51200 Range steps/rev
Encoder type	Internal, differential, magnetic
Encoder resolution	512 lines (2048 edges)
Steps/Rev	51200

iEM-RS Series

Integrated Stepper Motors



<https://www.kocomotion.de/produkt/iem-rs-series/>



Produkte:	Seite
iEM-RS1706	209
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iEM-RS2313	213
iEM-RS2323	216

iEM-RS1706

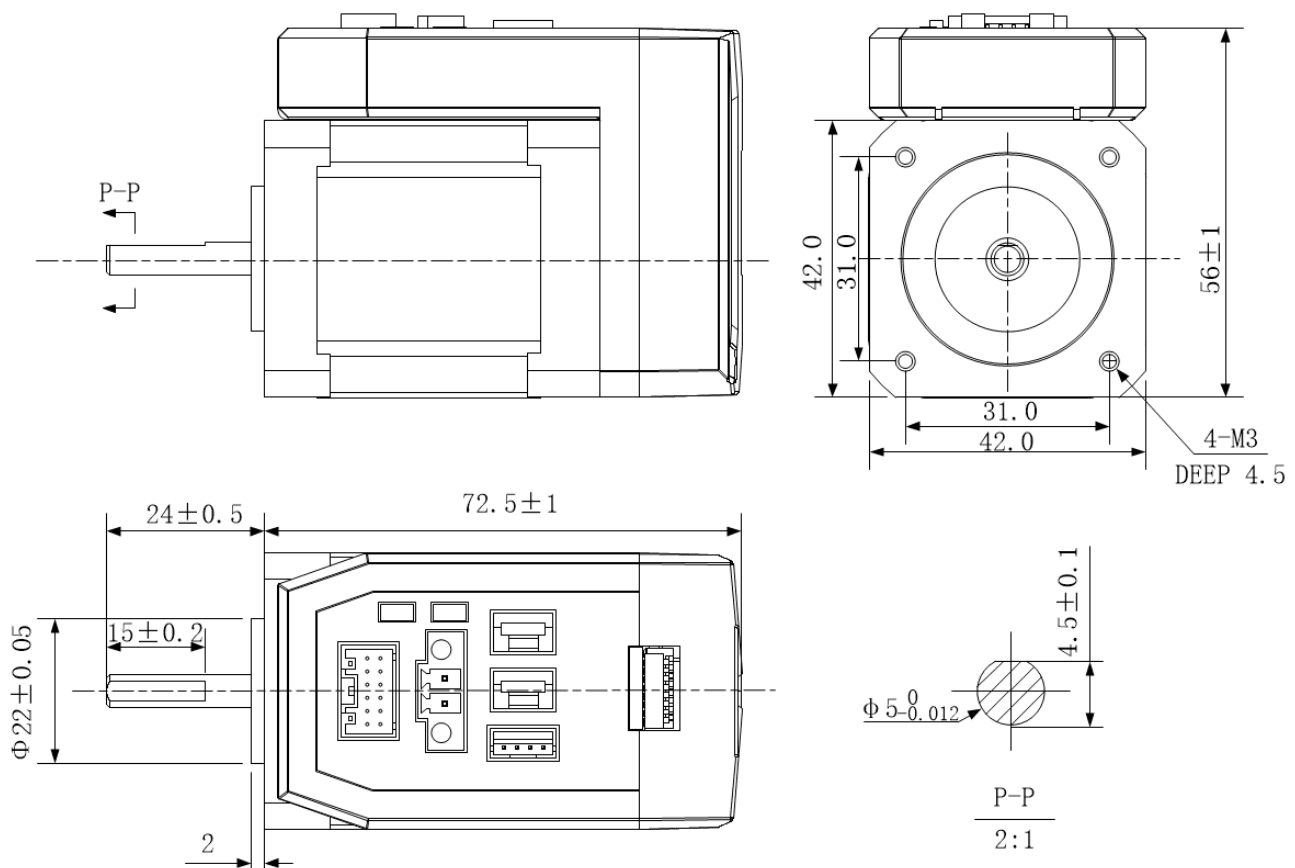
iEM-RS Series is an integrated stepper motor integrated drive, and based on standard Modbus RTU protocol, using RS485 communication can network up to 31 axes. Its built-in PR feature with 16-segment position table (PR Mode) can save additional controllers in most of point-to-point applications, to greatly enhance system reliability and reduce the cost. The iEM-RS series motors are highly reliable and affordable and performs excellently in many industrial applications such as solar equipment, textile, civil, robotics, power generation equipment, 3C, packaging...


<https://www.kocomotion.de/produkt/iem-rs1706/>


Specification	
Frame size	17 Nema
Length	73 mm
Holding torque	0.6 Nm
Communication	Modbus-RTU
Operation voltage	24 VDC
Input frequency	10 KHz, Max.
Logical voltage	12...24 VDC
# of inputs	3
# of outputs	1

Optionen

- Low noise and vibration, smooth motion
- Support Modbus RTU protocol, Internal 16-segment position Commands
- Motion can be started by External IO or RS485 or HMI
- Support operation modes: Profile Position, Profile Velocity, Homing
- 7 configurable digital inputs, 3 optically isolated digital outputs
- iEM-RS17xx: 20-36VDC supply voltage, max output current 3.0A peak
- iEM-RS23xx: 20-50VDC supply voltage, max output current 7.0A peak
- RS232 port for tuning software connection, RS485 port for motion control
- Protections for over voltage, over current, etc.
- Compare with Step/Direction



iEM-RS1708

iEM-RS Series is an integrated stepper motor integrated drive, and based on standard Modbus RTU protocol, using RS485 communication can network up to 31 axes. Its built-in PR feature with 16-segment position table (PR Mode) can save additional controllers in most of point-to-point applications, to greatly enhance system reliability and reduce the cost. The iEM-RS series motors are highly reliable and affordable and performs excellently in many industrial applications such as solar equipment, textile, civil, robotics, power generation equipment, 3C, packaging...



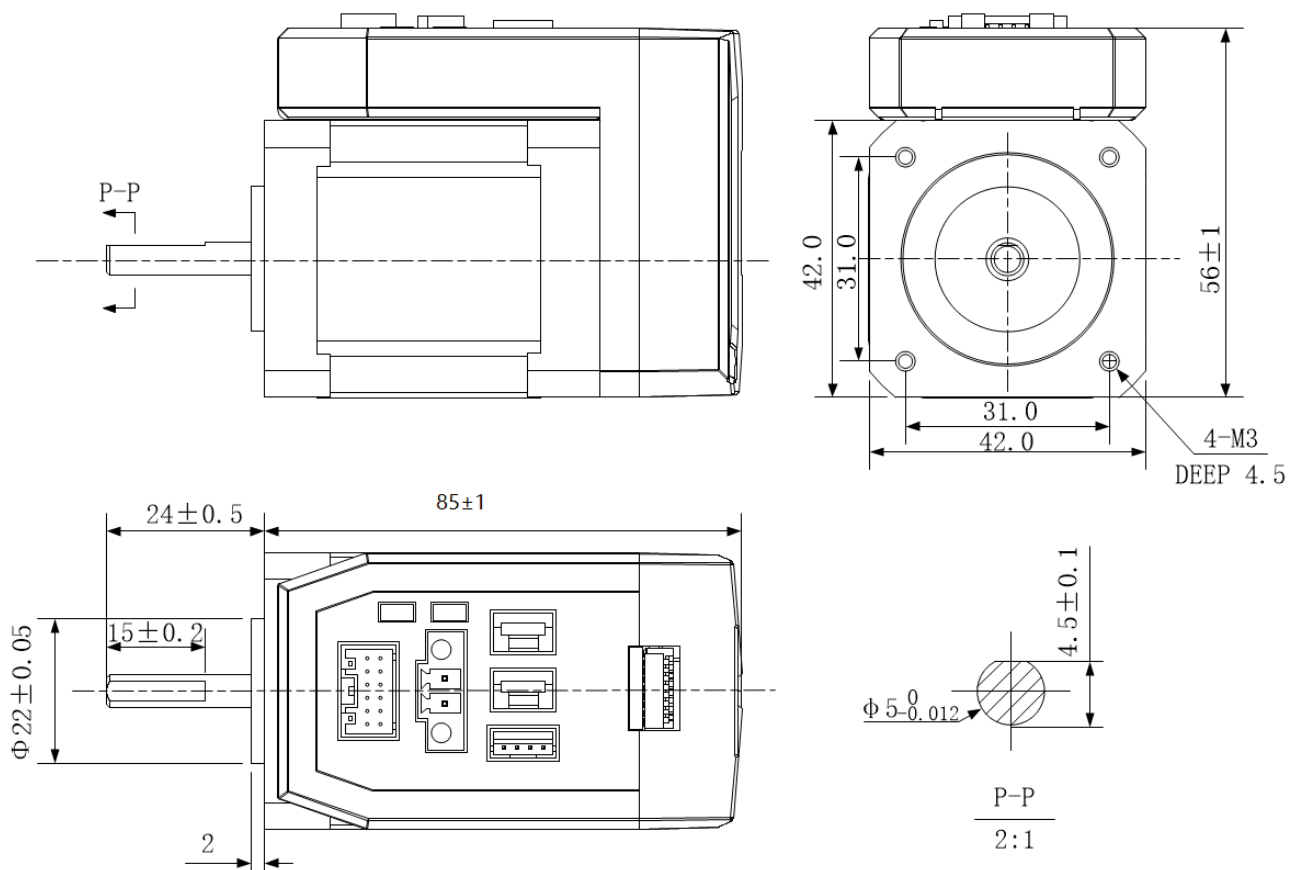
<https://www.kocomotion.de/produkt/iem-rs1708/>



Specification	
Frame size	17 Nema
Length	86 mm
Holding torque	0.8 Nm
Communication	Modbus-RTU
Operation voltage	24 VDC
Input frequency	10 KHz, Max.
Logical voltage	12...24 VDC
# of inputs	3
# of outputs	1

Optionen

- Low noise and vibration, smooth motion
- Support Modbus RTU protocol, Internal 16-segment position Commands
- Motion can be started by External IO or RS485 or HMI
- Support operation modes: Profile Position, Profile Velocity, Homing
- 7 configurable digital inputs, 3 optically isolated digital outputs
- iEM-RS17xx: 20-36VDC supply voltage, max output current 3.0A peak
- iEM-RS23xx: 20-50VDC supply voltage, max output current 7.0A peak
- RS232 port for tuning software connection, RS485 port for motion control
- Protections for over voltage, over current, etc.
- Compare with Step/Direction



iEM-RS2313

iEM-RS Series is an integrated stepper motor integrated drive, and based on standard Modbus RTU protocol, using RS485 communication can network up to 31 axes. Its built-in PR feature with 16-segment position table (PR Mode) can save additional controllers in most of point-to-point applications, to greatly enhance system reliability and reduce the cost. The iEM-RS series motors are highly reliable and affordable and performs excellently in many industrial applications such as solar equipment, textile, civil, robotics, power generation equipment, 3C, packaging...



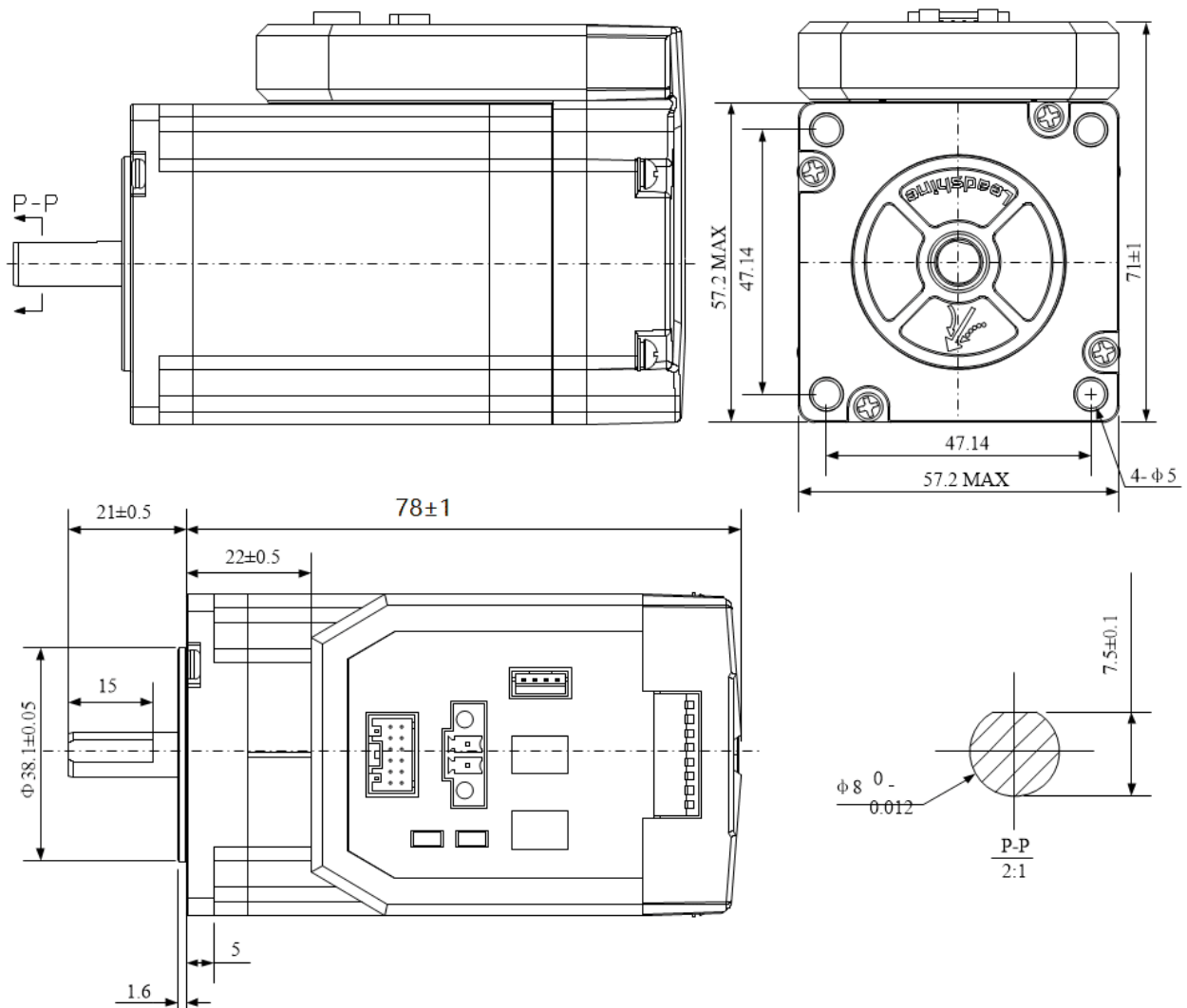
<https://www.kocomotion.de/produkt/iem-rs2313/>



Specification	
Frame size	23 Nema
Length	78 mm
Holding torque	1.3 Nm
Communication	Modbus-RTU
Operation voltage	24...36 VDC
Input frequency	10 KHz, Max.
Logical voltage	12...24 VDC
# of inputs	3
# of outputs	1

Optionen

- Low noise and vibration, smooth motion
- Support Modbus RTU protocol, Internal 16-segment position Commands
- Motion can be started by External IO or RS485 or HMI
- Support operation modes: Profile Position, Profile Velocity, Homing
- 7 configurable digital inputs, 3 optically isolated digital outputs
- iEM-RS17xx: 20-36VDC supply voltage, max output current 3.0A peak
- iEM-RS23xx: 20-50VDC supply voltage, max output current 7.0A peak
- RS232 port for tuning software connection, RS485 port for motion control
- Protections for over voltage, over current, etc.
- Compare with Step/Direction



iEM-RS2323

iEM-RS Series is an integrated stepper motor integrated drive, and based on standard Modbus RTU protocol, using RS485 communication can network up to 31 axes. Its built-in PR feature with 16-segment position table (PR Mode) can save additional controllers in most of point-to-point applications, to greatly enhance system reliability and reduce the cost. The iEM-RS series motors are highly reliable and affordable and performs excellently in many industrial applications such as solar equipment, textile, civil, robotics, power generation equipment, 3C, packaging...



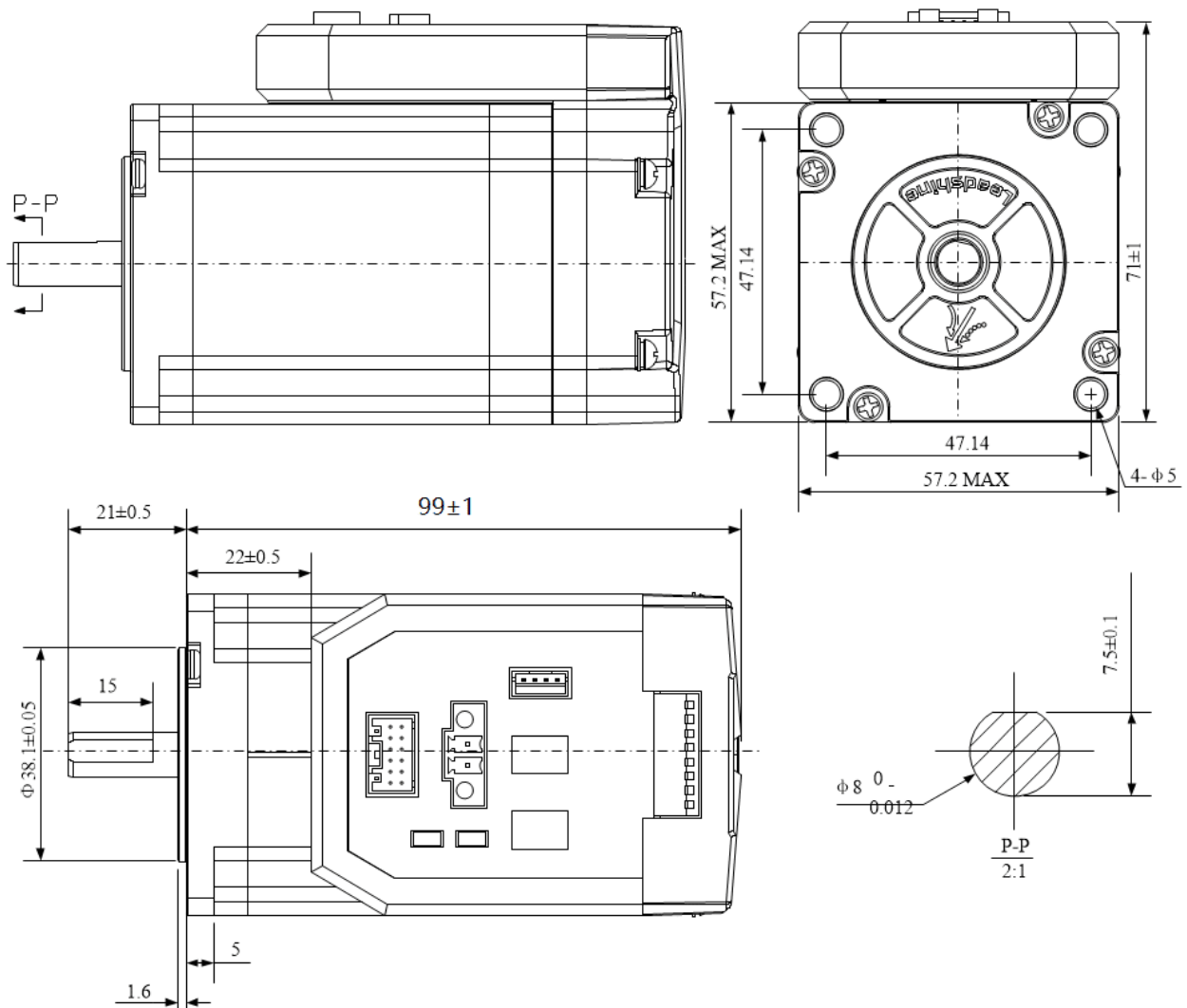
<https://www.kocomotion.de/produkt/iem-rs2323/>



Specification	
Frame size	23 Nema
Length	99 mm
Holding torque	-
Communication	Modbus-RTU
Operation voltage	24...36 VDC
Input frequency	10 KHz, Max.
Logical voltage	12...24 VDC
# of inputs	3
# of outputs	1

Optionen

- Low noise and vibration, smooth motion
- Support Modbus RTU protocol, Internal 16-segment position Commands
- Motion can be started by External IO or RS485 or HMI
- Support operation modes: Profile Position, Profile Velocity, Homing
- 7 configurable digital inputs, 3 optically isolated digital outputs
- iEM-RS17xx: 20-36VDC supply voltage, max output current 3.0A peak
- iEM-RS23xx: 20-50VDC supply voltage, max output current 7.0A peak
- RS232 port for tuning software connection, RS485 port for motion control
- Protections for over voltage, over current, etc.
- Compare with Step/Direction



iEM Series

Integrated Stepper Motors



<https://www.kocomotion.de/produkt/iem-series/>



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iEM-1703

iEM series is KOCO stepper motor integrated a digital stepper drive. It implements advanced control algorithm of KOCO based on its tens of years' experience in stepper and servo controls. At very compact size can save mounting space, eliminate motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iEM series are reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...



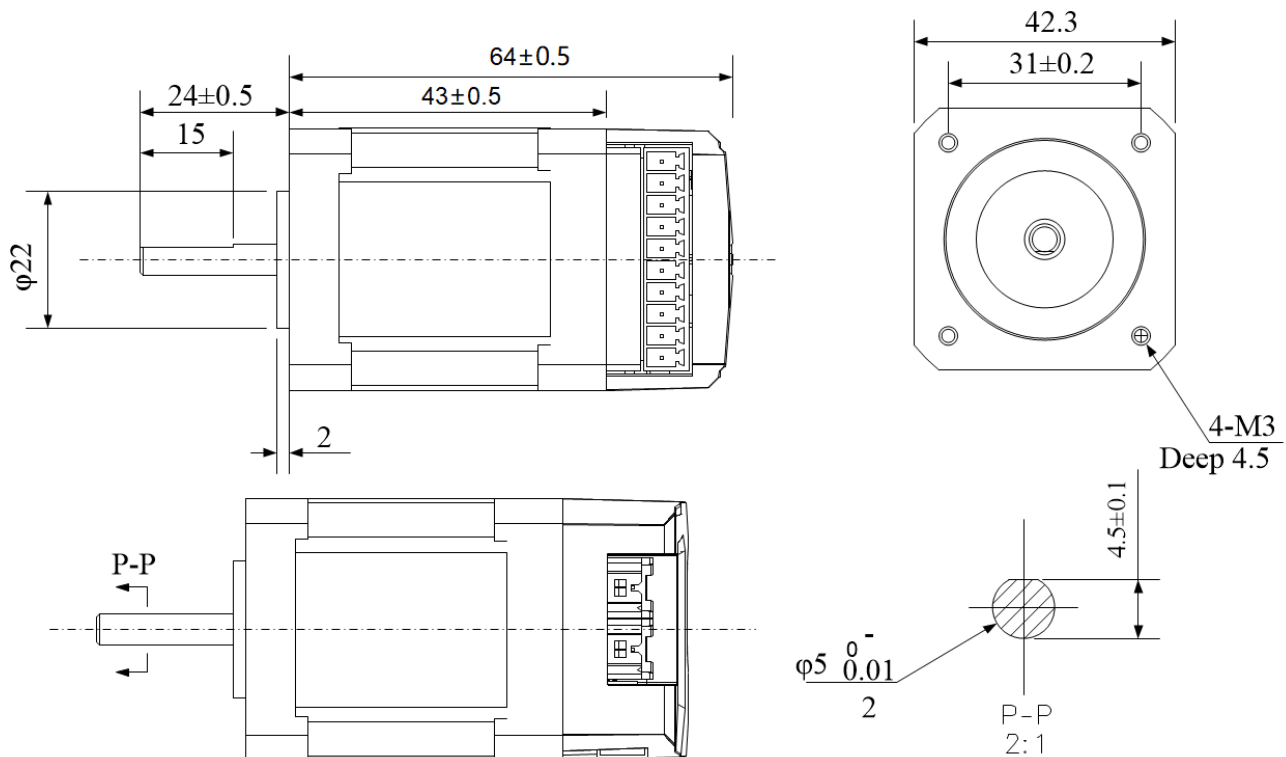
<https://www.kocomotion.de/produkt/iem-1703/>



Specification	
Frame size	17 Nema
Length	64 mm
Holding torque	0.3 Nm
Communication	Pul&Dir
Operation voltage	24 VDC
Input frequency	200 KHz, Max.
Logical voltage	5 VDC
# of inputs	3
# of outputs	1

Optionen

- No tuning for easy setup
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&Direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- RS232 communication for Leadshine software connection
- Over voltage, over current protections



iEM-1706

iEM series is KOCO stepper motor integrated a digital stepper drive. It implements advanced control algorithm of KOCO based on its tens of years' experience in stepper and servo controls. At very compact size can save mounting space, eliminate motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iEM series are reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...



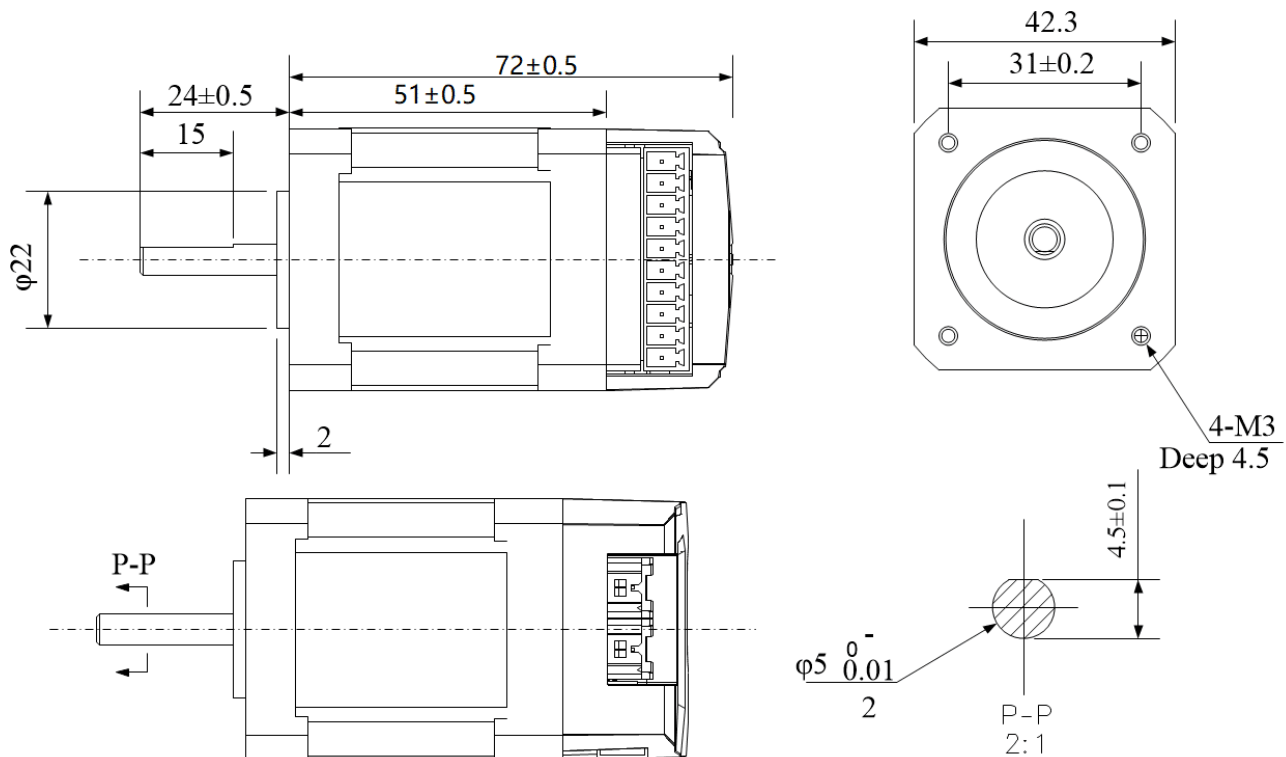
<https://www.kocomotion.de/produkt/iem-1706/>



Specification	
Frame size	17 Nema
Length	72 mm
Holding torque	0.6 Nm
Communication	Pul&Dir
Operation voltage	24 VDC
Input frequency	200 KHz, Max.
Logical voltage	5 VDC
# of inputs	3
# of outputs	1

Optionen

- No tuning for easy setup
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&Direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- RS232 communication for Leadshine software connection
- Over voltage, over current protections



iEM-1708

iEM series is KOCO stepper motor integrated a digital stepper drive. It implements advanced control algorithm of KOCO based on its tens of years' experience in stepper and servo controls. At very compact size can save mounting space, eliminate motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iEM series are reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...



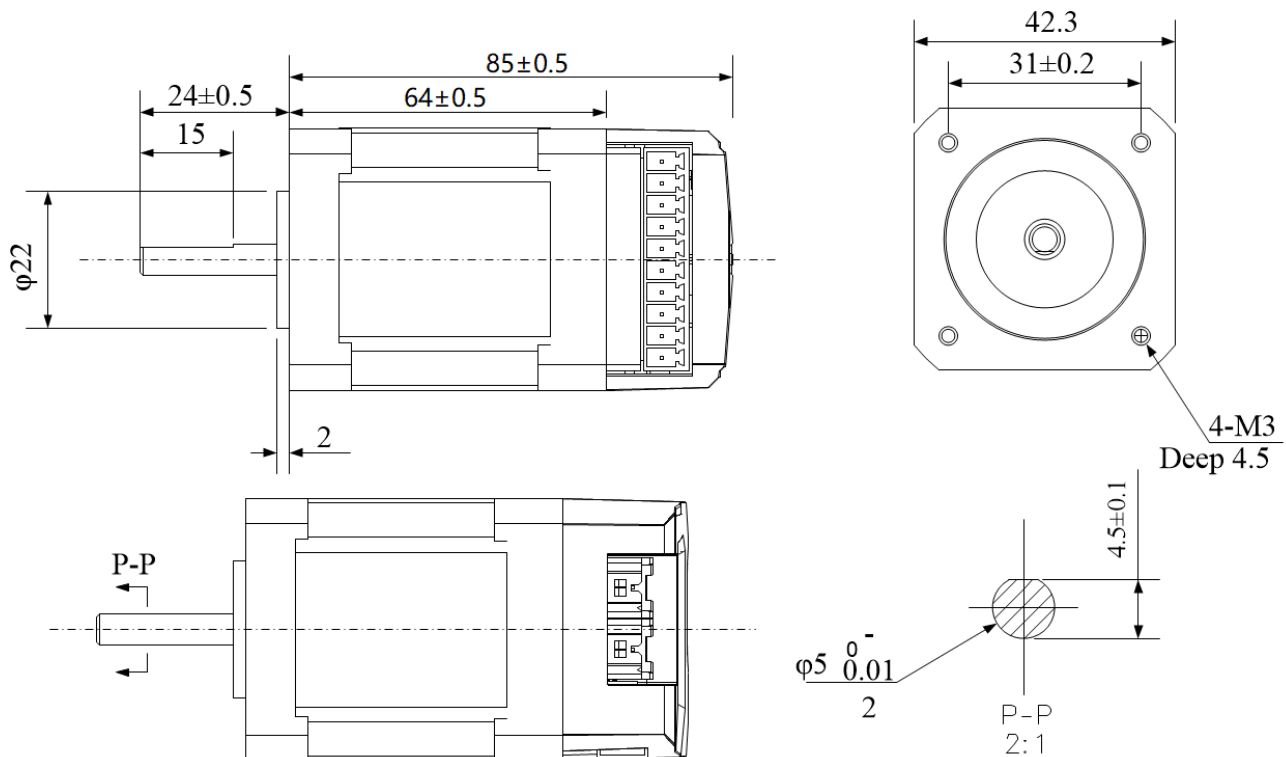
<https://www.kocomotion.de/produkt/iem-1708/>



Specification	
Frame size	17 Nema
Length	85 mm
Holding torque	0.8 Nm
Communication	Pul&Dir
Operation voltage	24 VDC
Input frequency	200 KHz, Max.
Logical voltage	5 VDC
# of inputs	3
# of outputs	1

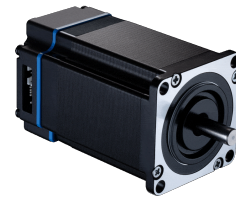
Optionen

- No tuning for easy setup
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&Direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- RS232 communication for Leadshine software connection
- Over voltage, over current protections



iEM-2313

iEM series is KOCO stepper motor integrated a digital stepper drive. It implements advanced control algorithm of KOCO based on its tens of years' experience in stepper and servo controls. At very compact size can save mounting space, eliminate motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iEM series are reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...

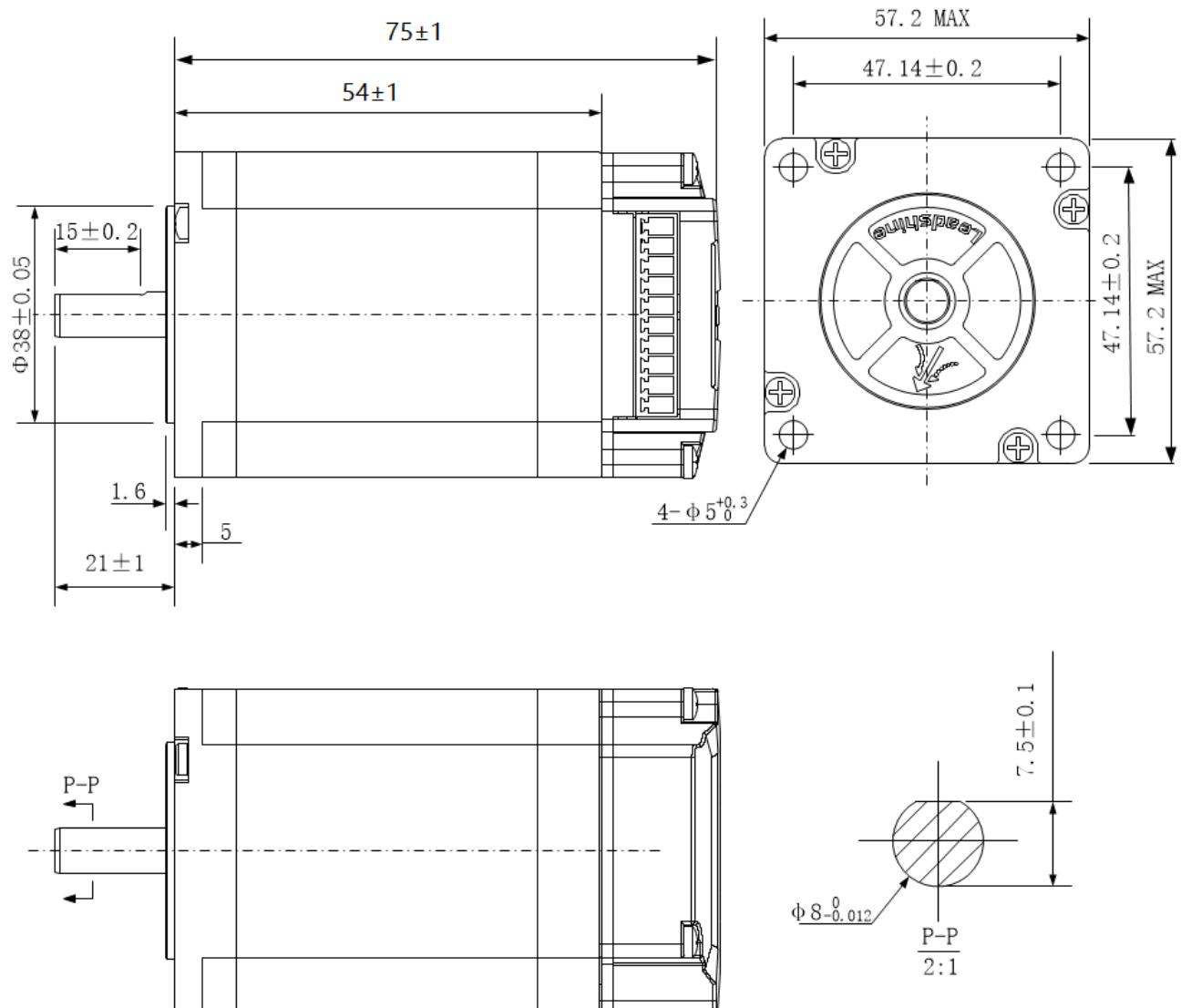


<https://www.kocomotion.de/produkt/iem-2313/>

Specification	
Frame size	23 Nema
Length	75 mm
Holding torque	1.3 Nm
Communication	Pul&Dir, CW&CCW
Operation voltage	24...36 VDC
Input frequency	200 KHz, Max.
Logical voltage	5 VDC
# of inputs	3
# of outputs	1

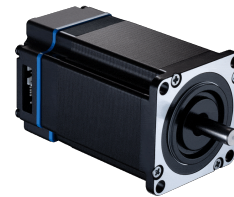
Optionen

- No tuning for easy setup
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&Direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- RS232 communication for Leadshine software connection
- Over voltage, over current protections



iEM-2323

iEM series is KOCO stepper motor integrated a digital stepper drive. It implements advanced control algorithm of KOCO based on its tens of years' experience in stepper and servo controls. At very compact size can save mounting space, eliminate motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iEM series are reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...

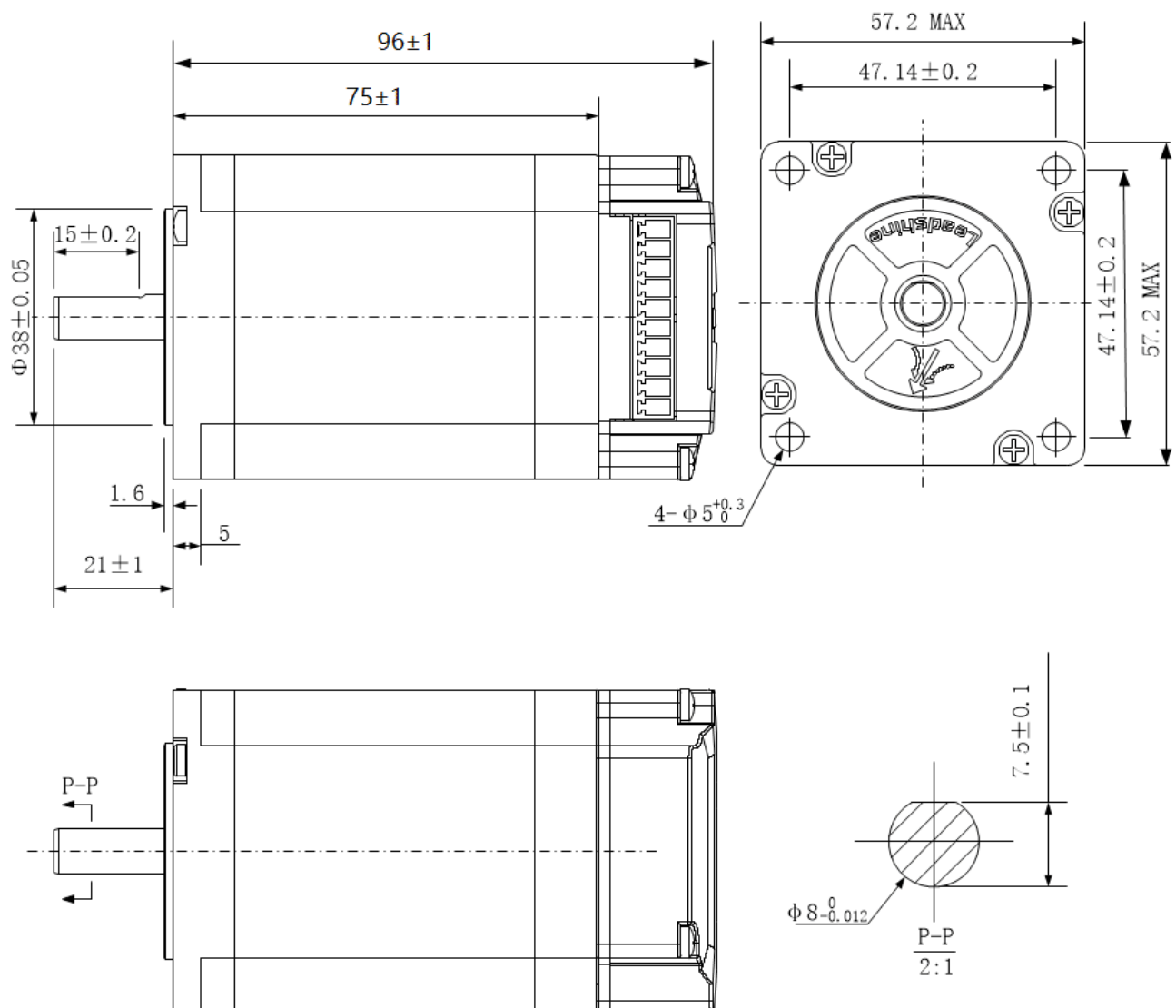


<https://www.kocomotion.de/produkt/iem-2323/>

Specification	
Frame size	23 Nema
Length	96 mm
Holding torque	2.3 Nm
Communication	Pul&Dir, CW&CCW
Operation voltage	24...36 VDC
Input frequency	200 KHz, Max.
Logical voltage	5 VDC
# of inputs	3
# of outputs	1

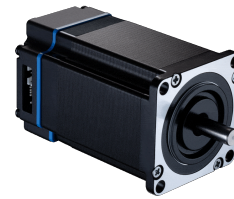
Optionen

- No tuning for easy setup
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&Direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- RS232 communication for Leadshine software connection
- Over voltage, over current protections



iEM-2321-L

iEM series is KOCO stepper motor integrated a digital stepper drive. It implements advanced control algorithm of KOCO based on its tens of years' experience in stepper and servo controls. At very compact size can save mounting space, eliminate motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iEM series are reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...

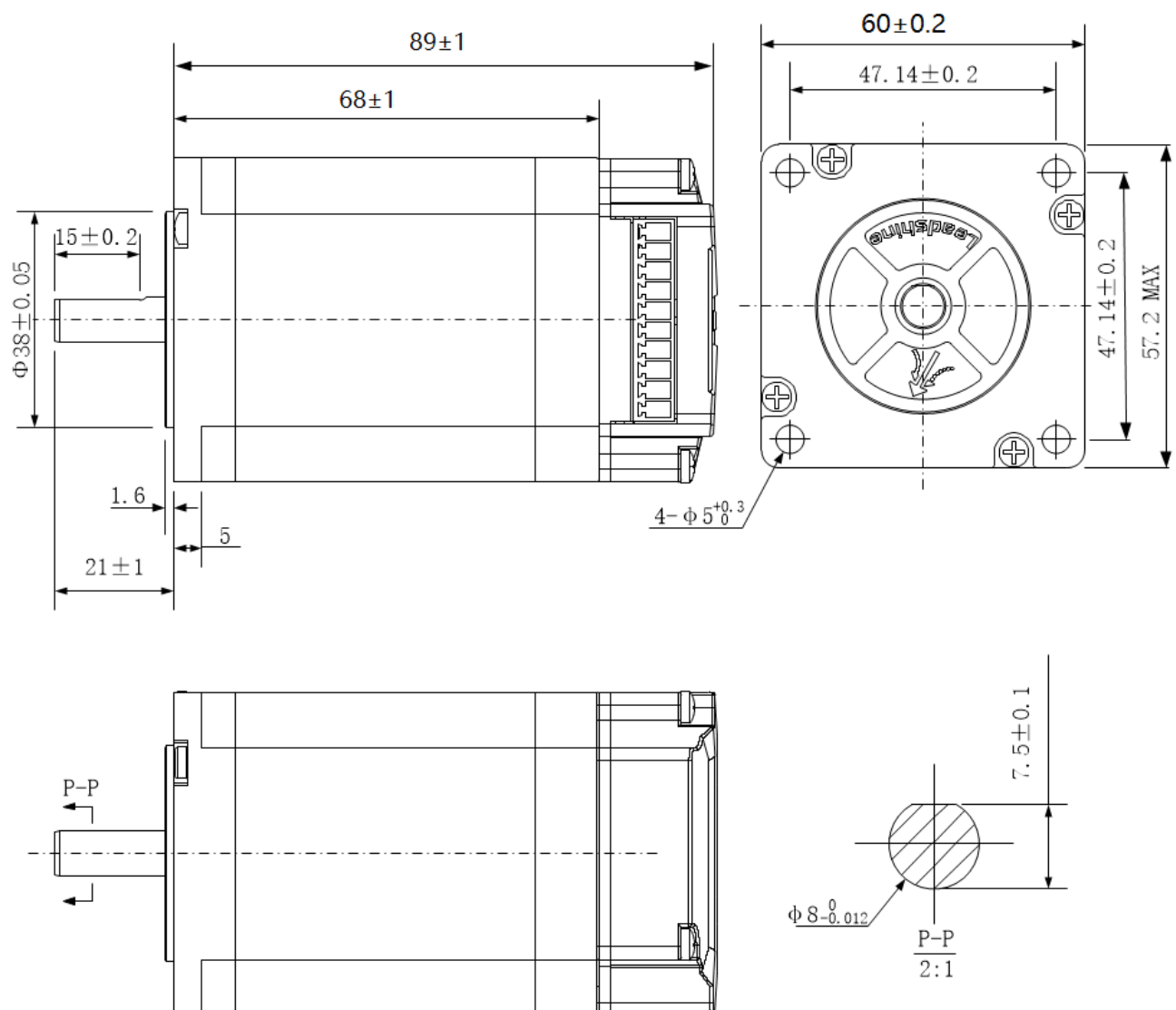


<https://www.kocomotion.de/produkt/iem-2321-l/>

Specification	
Frame size	23 Nema
Length	89 mm
Holding torque	2.1 Nm
Communication	Pul&Dir, CW&CCW
Operation voltage	24...36 VDC
Input frequency	200 KHz, Max.
Logical voltage	5 VDC
# of inputs	3
# of outputs	1

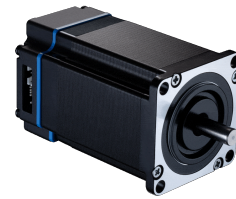
Optionen

- No tuning for easy setup
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&Direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- RS232 communication for Leadshine software connection
- Over voltage, over current protections



iEM-2331-L

iEM series is KOCO stepper motor integrated a digital stepper drive. It implements advanced control algorithm of KOCO based on its tens of years' experience in stepper and servo controls. At very compact size can save mounting space, eliminate motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iEM series are reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...

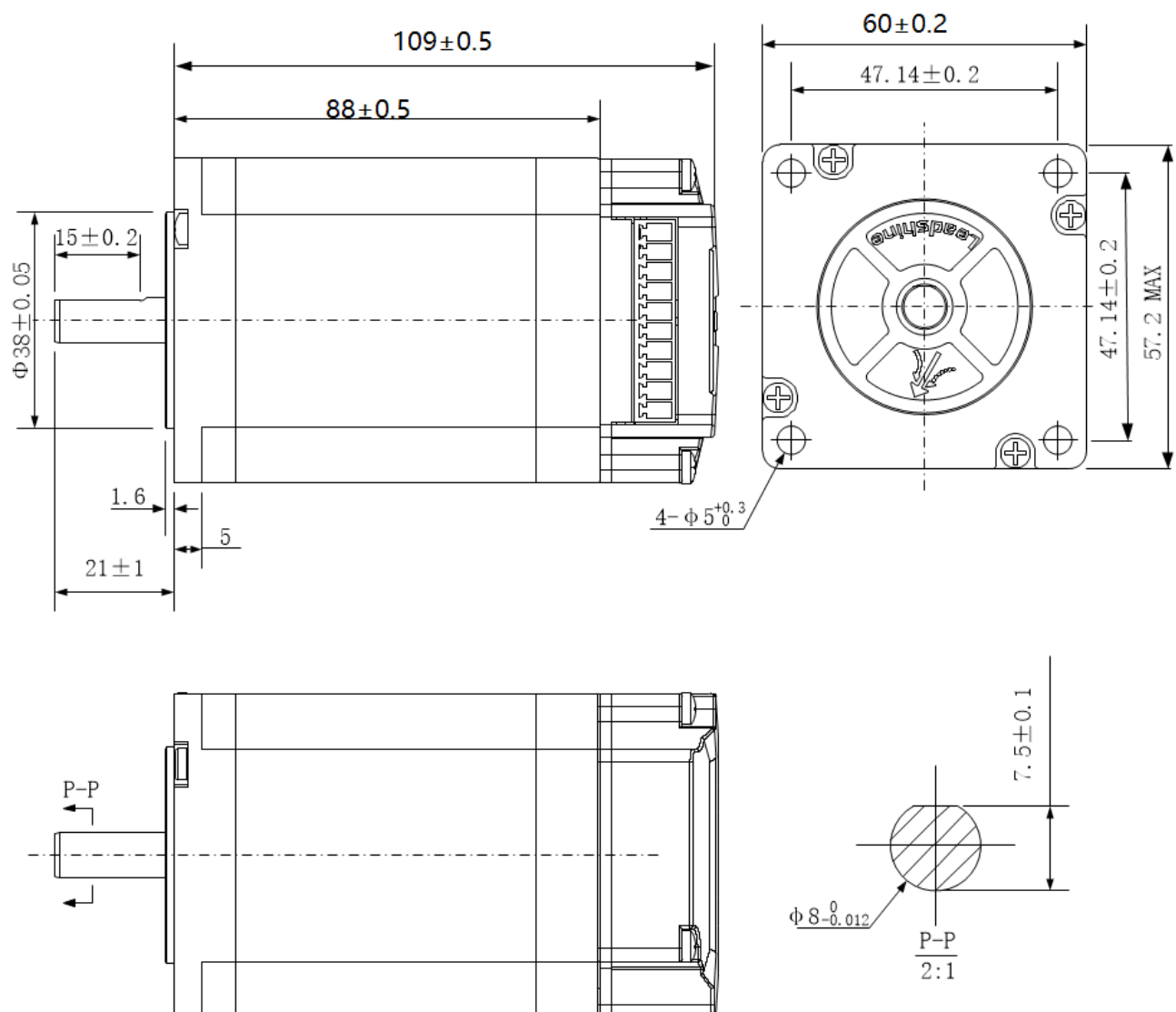


<https://www.kocomotion.de/produkt/iem-2331-l/>

Specification	
Frame size	23 Nema
Length	109 mm
Holding torque	3.1 Nm
Communication	Pul&Dir, CW&CCW
Operation voltage	24...36 VDC
Input frequency	200 KHz, Max.
Logical voltage	5 VDC
# of inputs	3
# of outputs	1

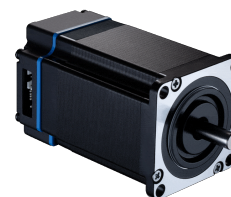
Optionen

- No tuning for easy setup
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&Direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- RS232 communication for Leadshine software connection
- Over voltage, over current protections



iEM-2430

iEM series is KOCO stepper motor integrated a digital stepper drive. It implements advanced control algorithm of KOCO based on its tens of years' experience in stepper and servo controls. At very compact size can save mounting space, eliminate motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iEM series are reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...

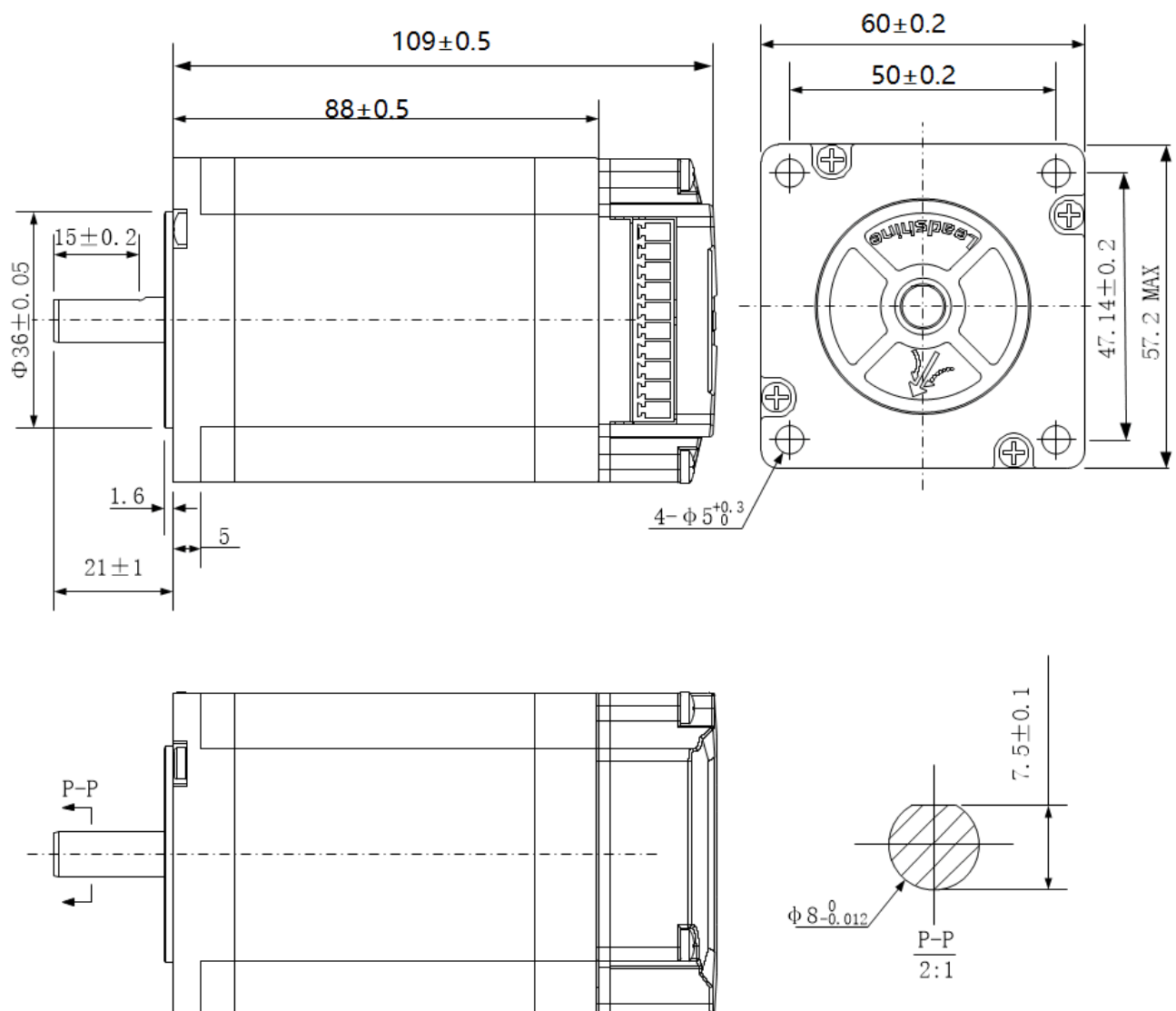


<https://www.kocomotion.de/produkt/iem-2430/>

Specification	
Frame size	24 Nema
Length	109 mm
Holding torque	3 Nm
Communication	Pul&Dir, CW&CCW
Operation voltage	24...36 VDC
Input frequency	200 KHz, Max.
Logical voltage	5 VDC
# of inputs	3
# of outputs	1

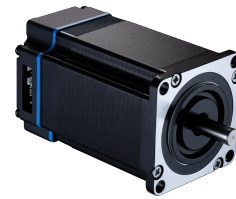
Optionen

- No tuning for easy setup
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&Direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- RS232 communication for Leadshine software connection
- Over voltage, over current protections



iEM-2435

iEM series is KOCO stepper motor integrated a digital stepper drive. It implements advanced control algorithm of KOCO based on its tens of years' experience in stepper and servo controls. At very compact size can save mounting space, eliminate motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iEM series are reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...

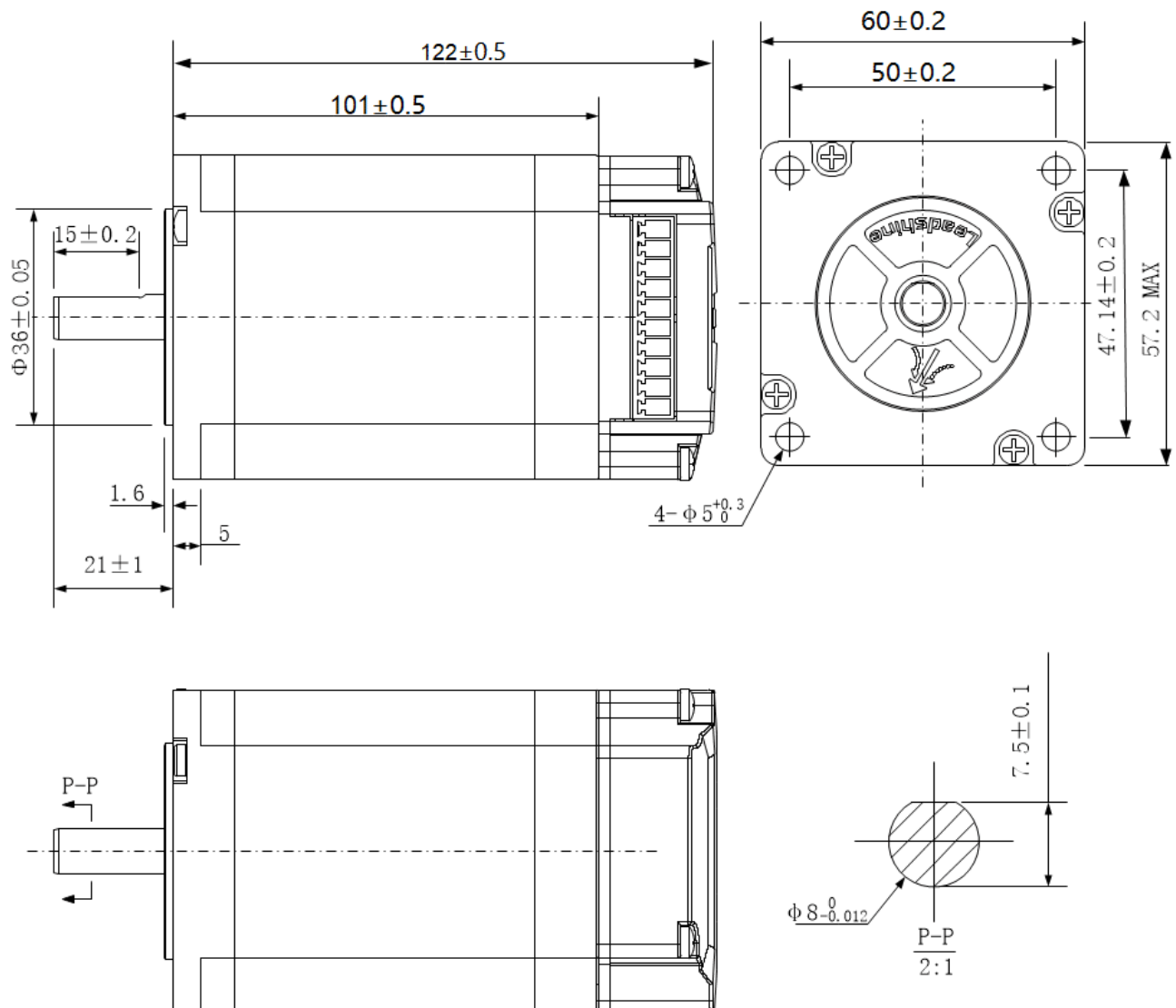


<https://www.kocomotion.de/produkt/iem-2435/>

Specification	
Frame size	24 Nema
Length	122 mm
Holding torque	3.5 Nm
Communication	Pul&Dir, CW&CCW
Operation voltage	24...36 VDC
Input frequency	200 KHz, Max.
Logical voltage	5 VDC
# of inputs	3
# of outputs	1

Optionen

- No tuning for easy setup
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&Direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- RS232 communication for Leadshine software connection
- Over voltage, over current protections

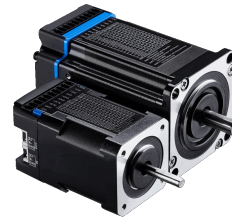


iCS Series

Integrated Closed Loop Stepper Motors



<https://www.kocomotion.de/produkt/ics-series/>



Produkte:	Seite
iCS-1703	239
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iCS-2323	248
iCS-2321-L	251
iCS-2331-L	254
iCS-2430	257
iCS-2435	260

iCS-1703

iCS series is stepper motor integrated 14-bit absolute magnetic encoder and drive to solve the loss of step problems in open loop stepper control systems, thus increase system reliability at minimal cost increase. It implements advanced control algorithm of Leadshine based on its tens of years' experience in stepper and servo controls. At very compact size and with all components integrated, the iCS series can save mounting space, eliminate encoder connection & motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iCS series is reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...etc."



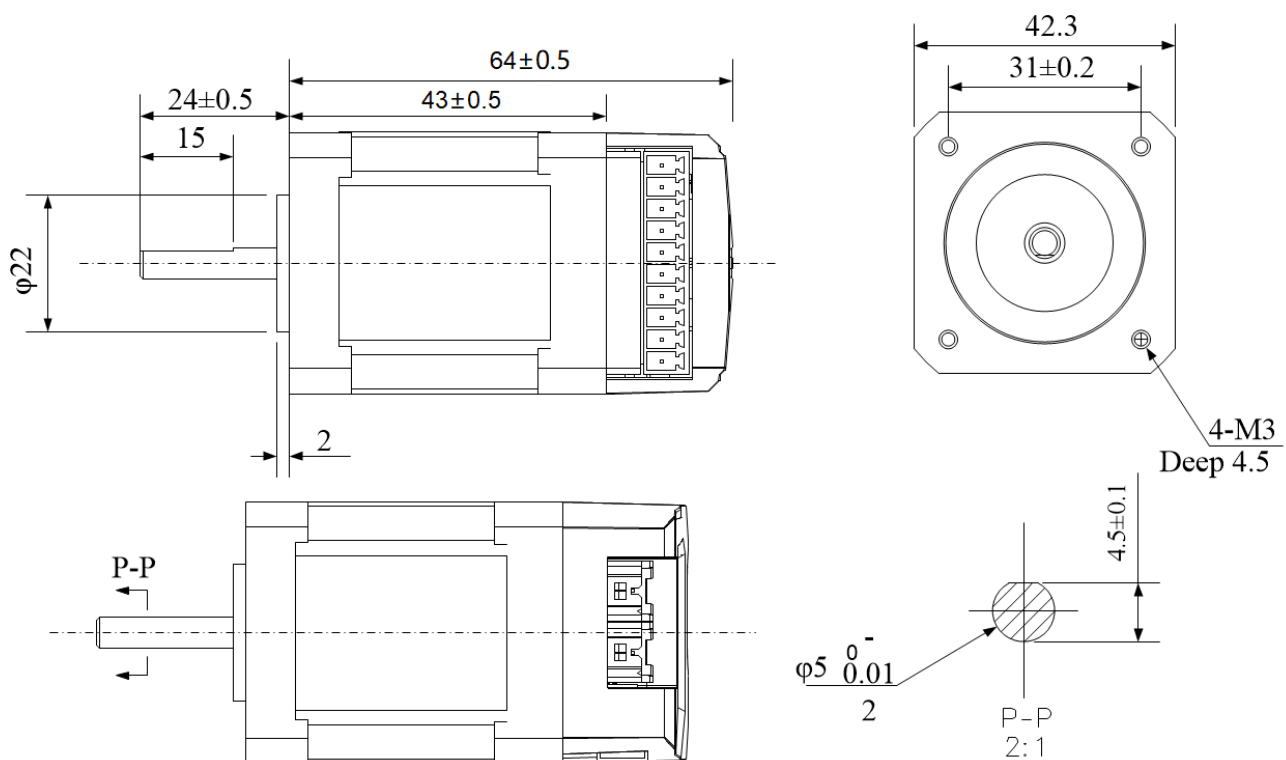
<https://www.kocomotion.de/produkt/ics-1703/>



Specification	
Size	17 Nema
Length	64 mm
Holding torque	0.3 Nm
Communication	Pul&Dir
Operating voltage	24 V
Max. input frequency	200 kHz
Logical voltage	5 V
No. of inputs	3
No. of outputs	1

Optionen

- No loss of step & no torque reservation & no hunting or overshooting & no tuning for easy setup
- Enhance performance, especially at low speed application (60RPM)
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- 14-bit single-turn incremental encoder
- RS232 communication for Leadshine software connection
- Over voltage, over current, position following error protections, etc.



iCS-1706

iCS series is stepper motor integrated 14-bit absolute magnetic encoder and drive to solve the loss of step problems in open loop stepper control systems, thus increase system reliability at minimal cost increase. It implements advanced control algorithm of Leadshine based on its tens of years' experience in stepper and servo controls. At very compact size and with all components integrated, the iCS series can save mounting space, eliminate encoder connection & motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iCS series is reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...etc."



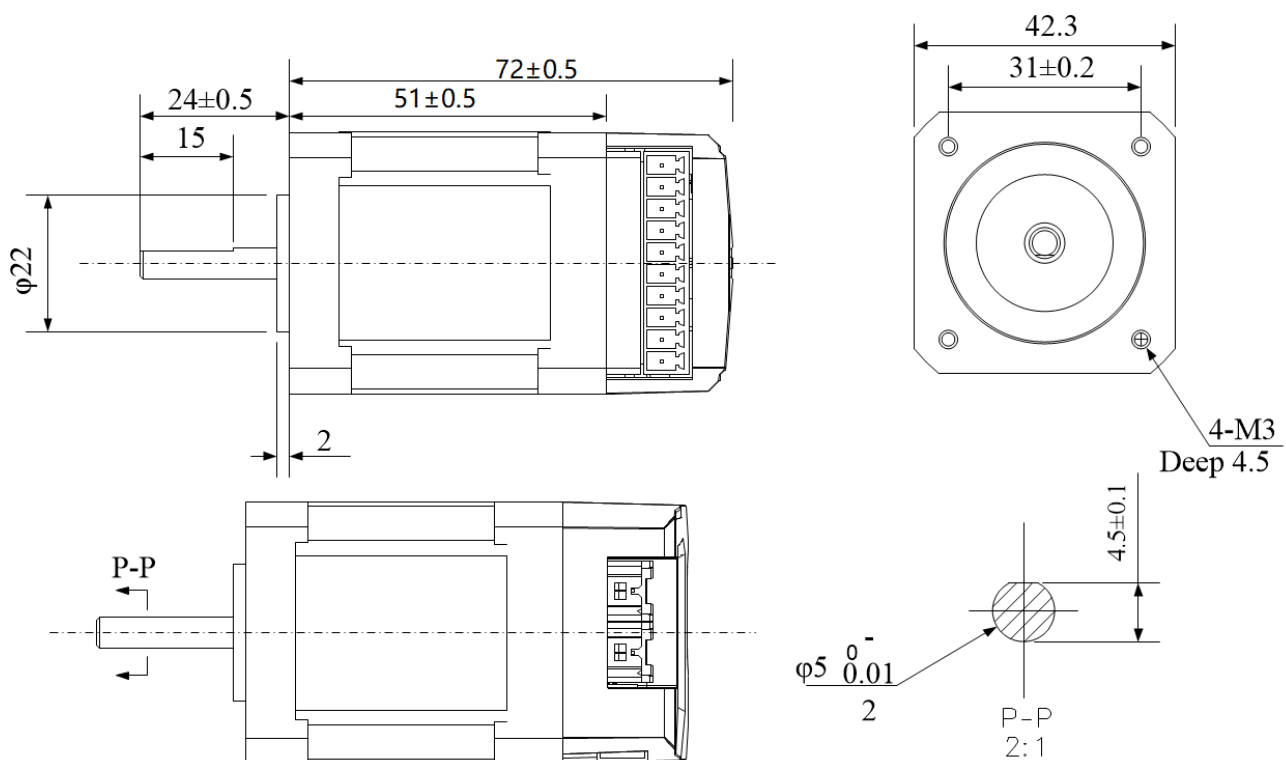
<https://www.kocomotion.de/produkt/ics-1706/>



Specification	
Size	17 Nema
Length	72 mm
Holding torque	0.6 Nm
Communication	Pul&Dir
Operating voltage	24 V
Max. input frequency	200 kHz
Logical voltage	5 V
No. of inputs	3
No. of outputs	1

Optionen

- No loss of step & no torque reservation & no hunting or overshooting & no tuning for easy setup
- Enhance performance, especially at low speed application (60RPM)
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- 14-bit single-turn incremental encoder
- RS232 communication for Leadshine software connection
- Over voltage, over current, position following error protections, etc.



iCS-1708

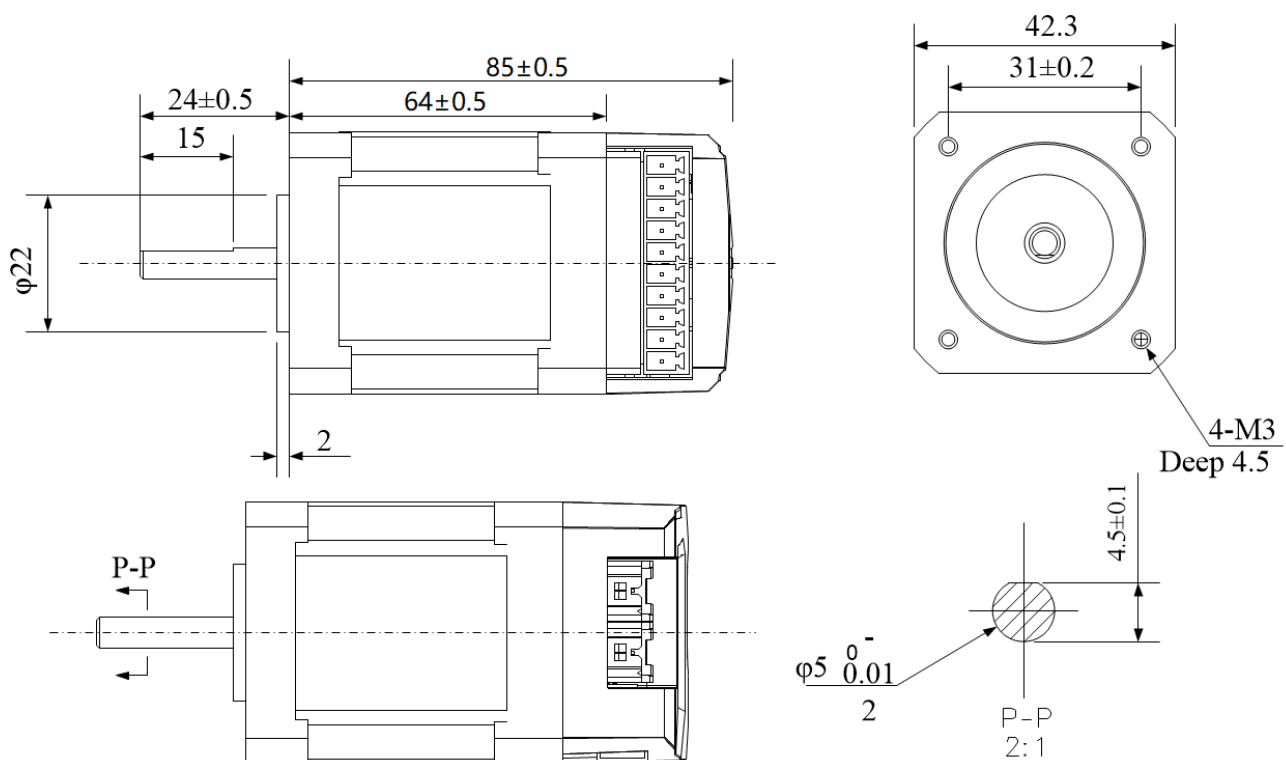
iCS series is stepper motor integrated 14-bit absolute magnetic encoder and drive to solve the loss of step problems in open loop stepper control systems, thus increase system reliability at minimal cost increase. It implements advanced control algorithm of Leadshine based on its tens of years' experience in stepper and servo controls. At very compact size and with all components integrated, the iCS series can save mounting space, eliminate encoder connection & motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iCS series is reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...etc."


<https://www.kocomotion.de/produkt/ics-1708/>


Specification	
Size	17 Nema
Length	85 mm
Holding torque	0.8 Nm
Communication	Pul&Dir
Operating voltage	24 V
Max. input frequency	200 kHz
Logical voltage	5 V
No. of inputs	3
No. of outputs	1

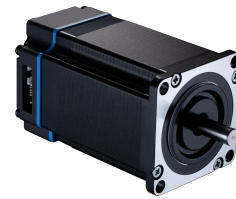
Optionen

- No loss of step & no torque reservation & no hunting or overshooting & no tuning for easy setup
- Enhance performance, especially at low speed application (60RPM)
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- 14-bit single-turn incremental encoder
- RS232 communication for Leadshine software connection
- Over voltage, over current, position following error protections, etc.



iCS-2313

iCS series is stepper motor integrated 14-bit absolute magnetic encoder and drive to solve the loss of step problems in open loop stepper control systems, thus increase system reliability at minimal cost increase. It implements advanced control algorithm of Leadshine based on its tens of years' experience in stepper and servo controls. At very compact size and with all components integrated, the iCS series can save mounting space, eliminate encoder connection & motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iCS series is reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...etc."

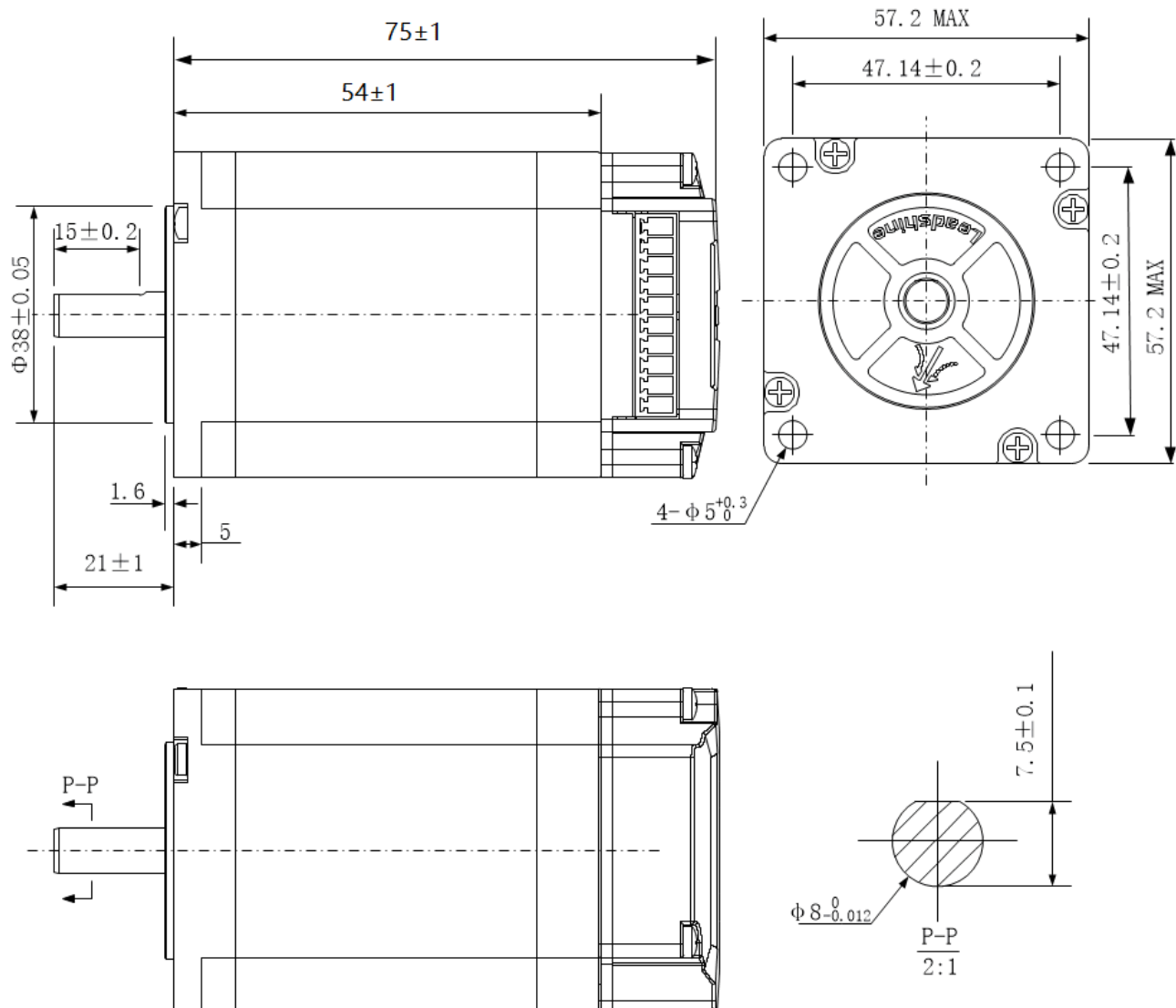


<https://www.kocomotion.de/produkt/ics-2313/>

Specification	
Size	23 Nema
Length	75 mm
Holding torque	1.3 Nm
Communication	Pul&Dir, CW&CCW
Operating voltage	24...36 V
Max. input frequency	200 kHz
Logical voltage	5 V
No. of inputs	3
No. of outputs	1

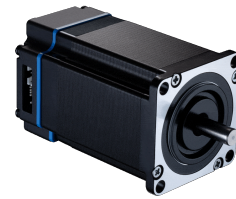
Optionen

- No loss of step & no torque reservation & no hunting or overshooting & no tuning for easy setup
- Enhance performance, especially at low speed application (60RPM)
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- 14-bit single-turn incremental encoder
- RS232 communication for Leadshine software connection
- Over voltage, over current, position following error protections, etc.



iCS-2323

iCS series is stepper motor integrated 14-bit absolute magnetic encoder and drive to solve the loss of step problems in open loop stepper control systems, thus increase system reliability at minimal cost increase. It implements advanced control algorithm of Leadshine based on its tens of years' experience in stepper and servo controls. At very compact size and with all components integrated, the iCS series can save mounting space, eliminate encoder connection & motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iCS series is reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...etc."

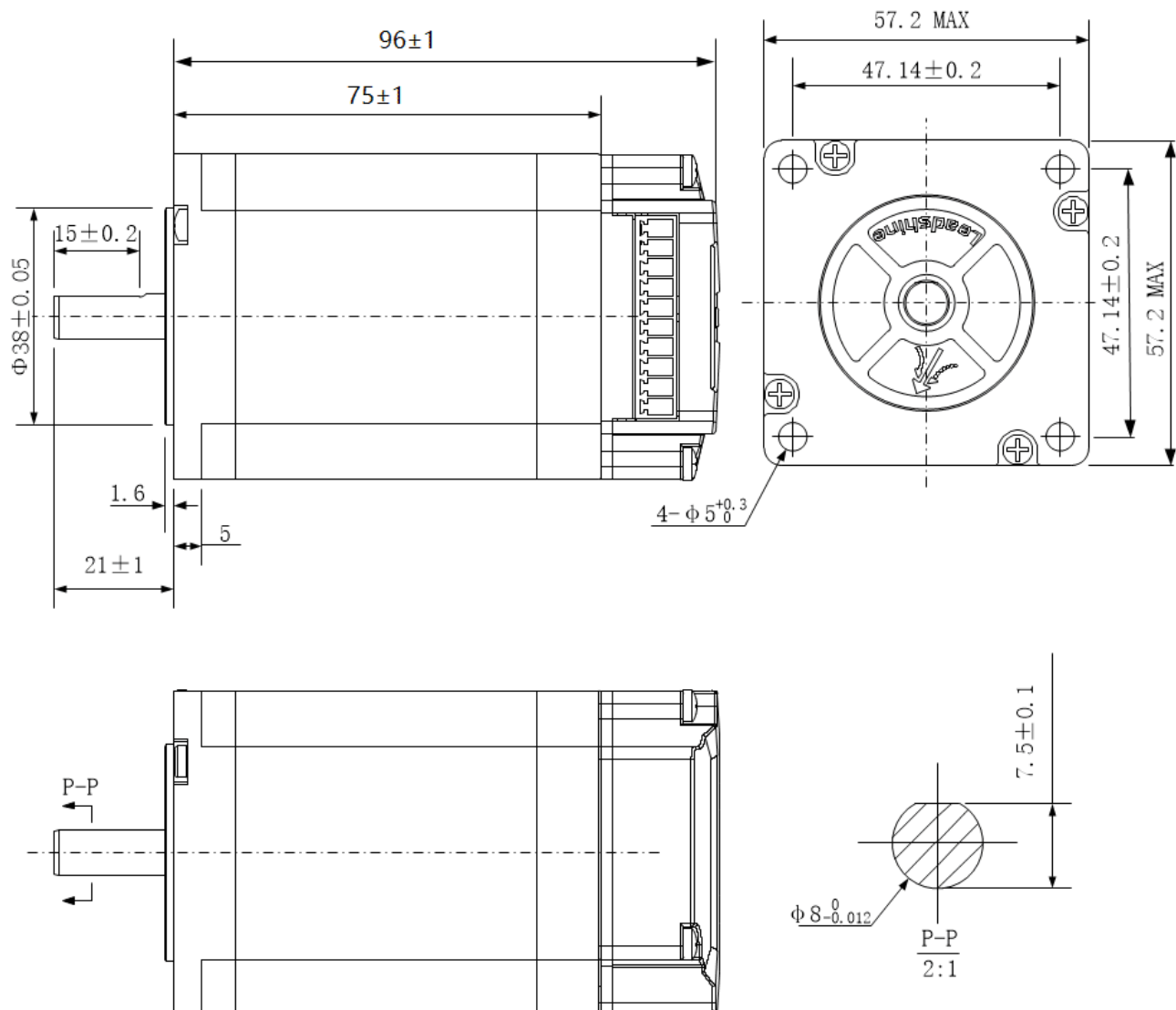


<https://www.kocomotion.de/produkt/ics-2323/>

Specification	
Size	23 Nema
Length	96 mm
Holding torque	2.3 Nm
Communication	Pul&Dir, CW&CCW
Operating voltage	24...36 V
Max. input frequency	200 kHz
Logical voltage	5 V
No. of inputs	3
No. of outputs	1

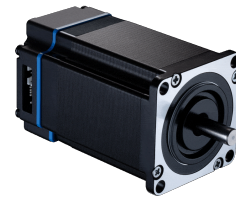
Optionen

- No loss of step & no torque reservation & no hunting or overshooting & no tuning for easy setup
- Enhance performance, especially at low speed application (60RPM)
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- 14-bit single-turn incremental encoder
- RS232 communication for Leadshine software connection
- Over voltage, over current, position following error protections, etc.



iCS-2321-L

iCS series is stepper motor integrated 14-bit absolute magnetic encoder and drive to solve the loss of step problems in open loop stepper control systems, thus increase system reliability at minimal cost increase. It implements advanced control algorithm of Leadshine based on its tens of years' experience in stepper and servo controls. At very compact size and with all components integrated, the iCS series can save mounting space, eliminate encoder connection & motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iCS series is reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...etc."

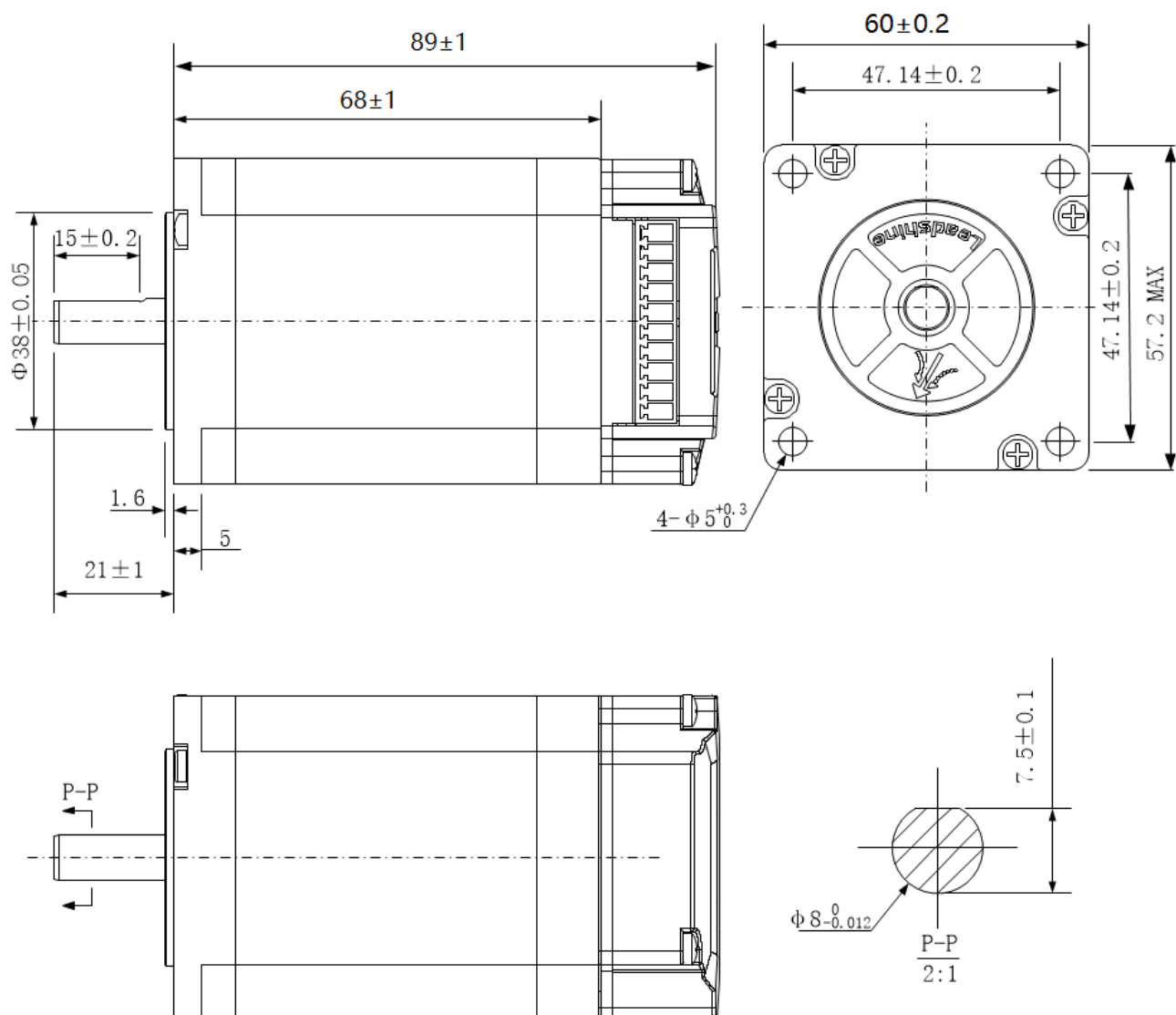


<https://www.kocomotion.de/produkt/ics-2321-l/>

Specification	
Size	23 Nema
Length	89 mm
Holding torque	2.1 Nm
Communication	Pul&Dir, CW&CCW
Operating voltage	24...36 V
Max. input frequency	200 kHz
Logical voltage	5 V
No. of inputs	3
No. of outputs	1

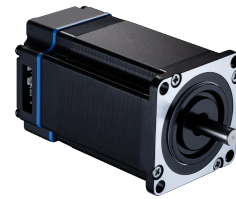
Optionen

- No loss of step & no torque reservation & no hunting or overshooting & no tuning for easy setup
- Enhance performance, especially at low speed application (60RPM)
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- 14-bit single-turn incremental encoder
- RS232 communication for Leadshine software connection
- Over voltage, over current, position following error protections, etc.



iCS-2331-L

iCS series is stepper motor integrated 14-bit absolute magnetic encoder and drive to solve the loss of step problems in open loop stepper control systems, thus increase system reliability at minimal cost increase. It implements advanced control algorithm of Leadshine based on its tens of years' experience in stepper and servo controls. At very compact size and with all components integrated, the iCS series can save mounting space, eliminate encoder connection & motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iCS series is reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...etc."

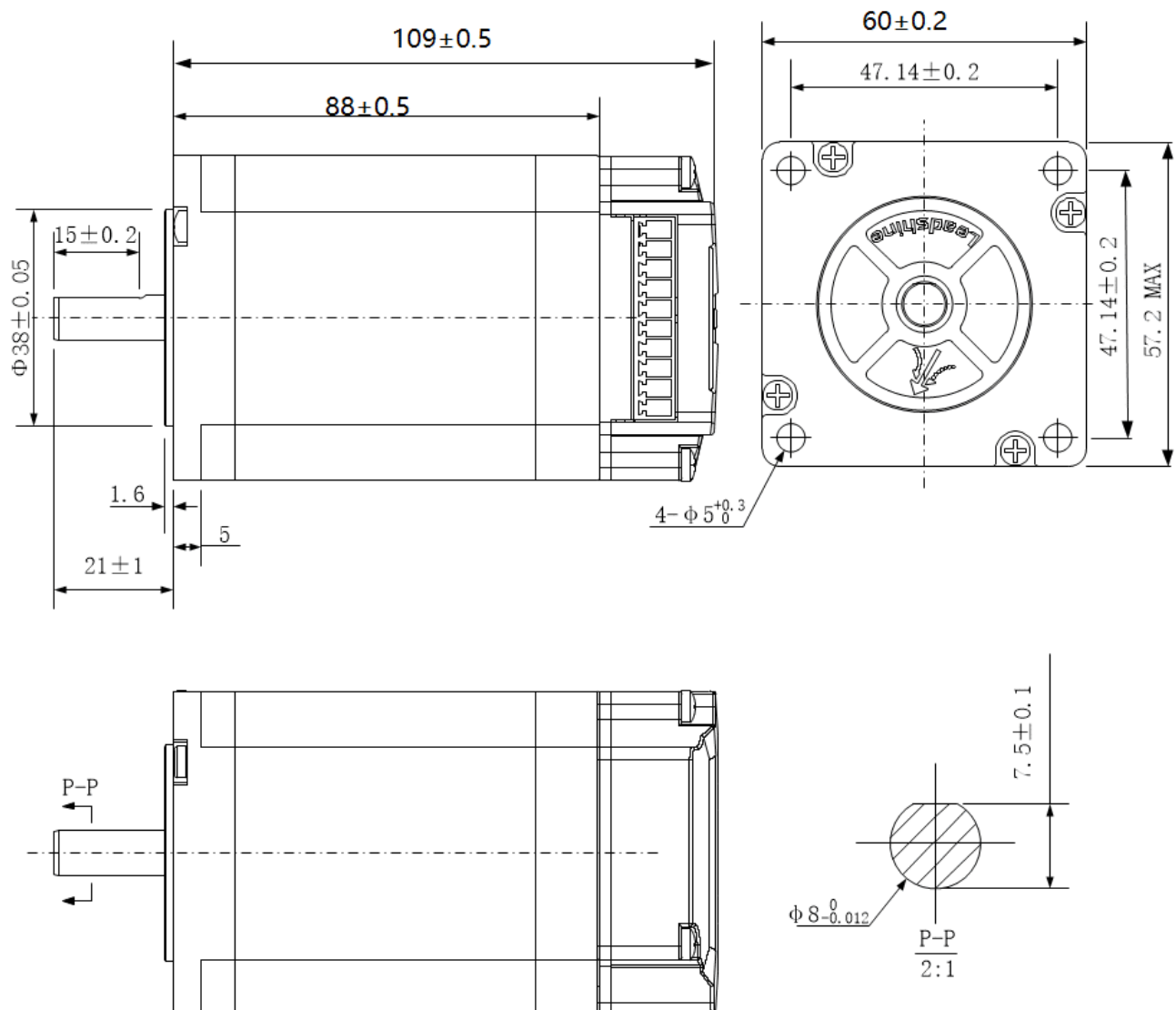


<https://www.kocomotion.de/produkt/ics-2331-l/>

Specification	
Size	23 Nema
Length	109 mm
Holding torque	3.1 Nm
Communication	Pul&Dir, CW&CCW
Operating voltage	24...36 V
Max. input frequency	200 kHz
Logical voltage	5 V
No. of inputs	3
No. of outputs	1

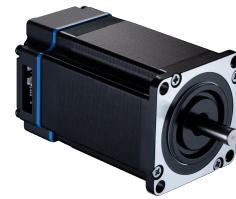
Optionen

- No loss of step & no torque reservation & no hunting or overshooting & no tuning for easy setup
- Enhance performance, especially at low speed application (60RPM)
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- 14-bit single-turn incremental encoder
- RS232 communication for Leadshine software connection
- Over voltage, over current, position following error protections, etc.



iCS-2430

iCS series is stepper motor integrated 14-bit absolute magnetic encoder and drive to solve the loss of step problems in open loop stepper control systems, thus increase system reliability at minimal cost increase. It implements advanced control algorithm of Leadshine based on its tens of years' experience in stepper and servo controls. At very compact size and with all components integrated, the iCS series can save mounting space, eliminate encoder connection & motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iCS series is reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...etc."

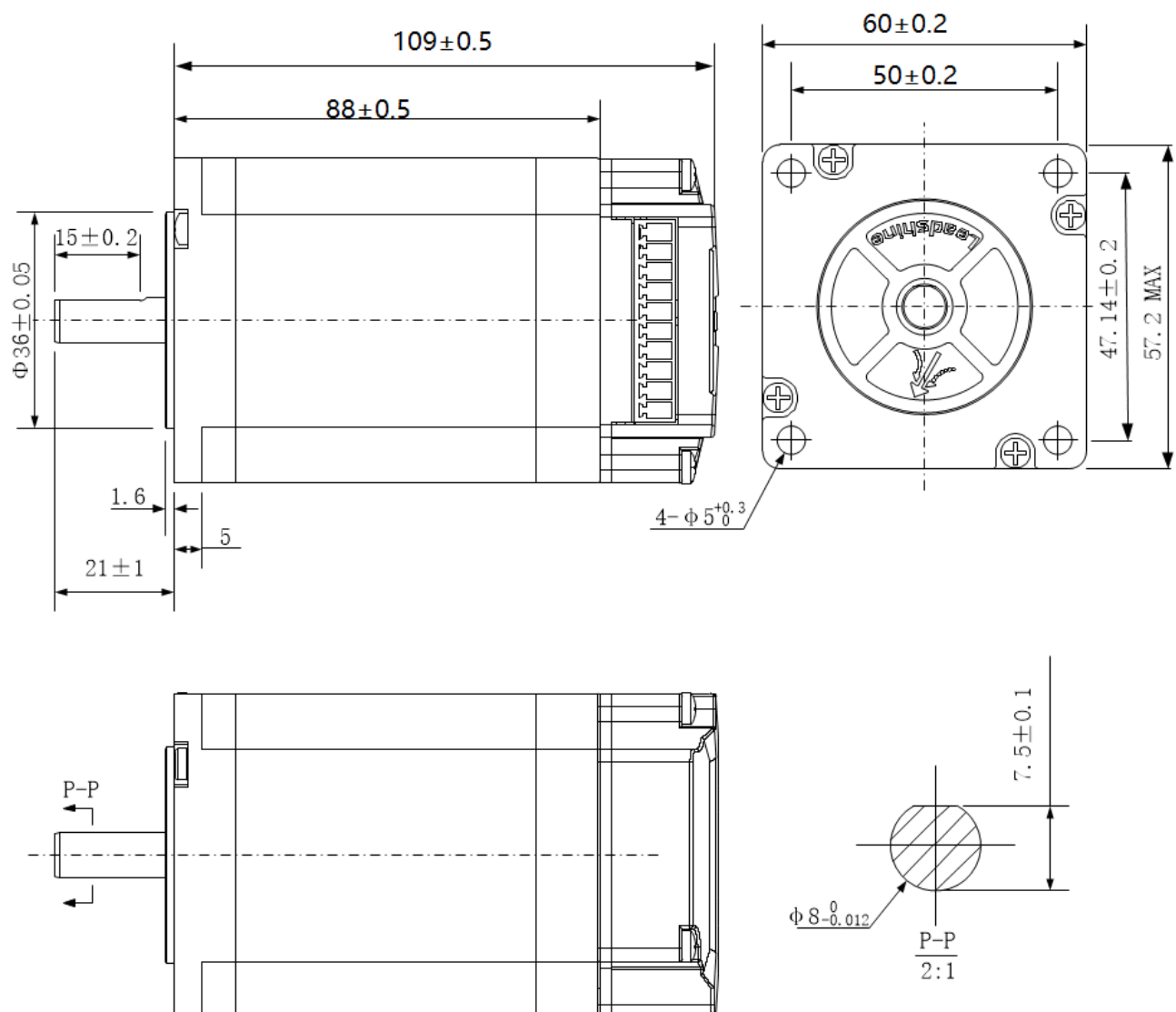


<https://www.kocomotion.de/produkt/ics-2430/>

Specification	
Size	24 Nema
Length	122 mm
Holding torque	2.3 Nm
Communication	Pul&Dir, CW&CCW
Operating voltage	24...36 V
Max. input frequency	200 kHz
Logical voltage	5 V
No. of inputs	3
No. of outputs	1

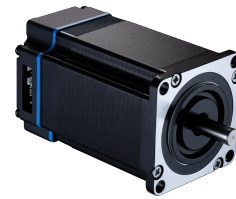
Optionen

- No loss of step & no torque reservation & no hunting or overshooting & no tuning for easy setup
- Enhance performance, especially at low speed application (60RPM)
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- 14-bit single-turn incremental encoder
- RS232 communication for Leadshine software connection
- Over voltage, over current, position following error protections, etc.



iCS-2435

iCS series is stepper motor integrated 14-bit absolute magnetic encoder and drive to solve the loss of step problems in open loop stepper control systems, thus increase system reliability at minimal cost increase. It implements advanced control algorithm of Leadshine based on its tens of years' experience in stepper and servo controls. At very compact size and with all components integrated, the iCS series can save mounting space, eliminate encoder connection & motor wiring time, reduce interference, and cut/reduce cable and labor costs. The iCS series is reliable and affordable and performs excellent in many industrial applications such as CNC, 3D printer, stage equipment, medical, electronics, packaging...etc."

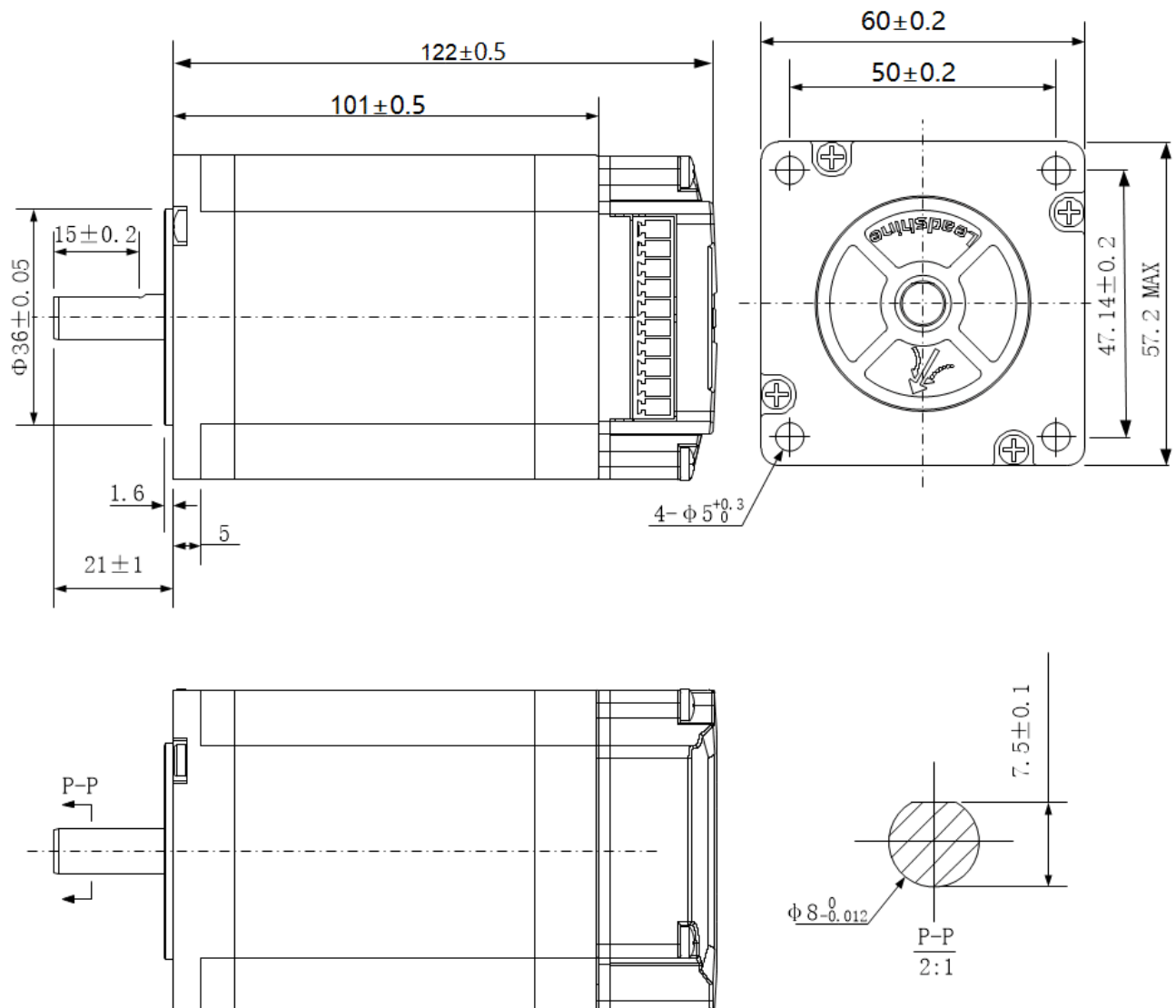


<https://www.kocomotion.de/produkt/ics-2435/>

Specification	
Size	24 Nema
Length	122 mm
Holding torque	2.3 Nm
Communication	Pul&Dir, CW&CCW
Operating voltage	24...36 V
Max. input frequency	200 kHz
Logical voltage	5 V
No. of inputs	3
No. of outputs	1

Optionen

- No loss of step & no torque reservation & no hunting or overshooting & no tuning for easy setup
- Enhance performance, especially at low speed application (60RPM)
- Soft-start with no "jump" when powered on
- Low noise and vibration, smooth motion
- Step&direction and CW&CCW control
- 3 digital inputs, 1 optically isolated digital output
- 14-bit single-turn incremental encoder
- RS232 communication for Leadshine software connection
- Over voltage, over current, position following error protections, etc.

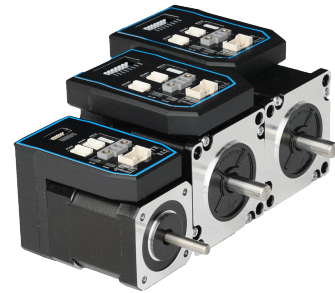


Integrated Stepper Motors Modbus RTU

Modbus RTU



<https://www.kocomotion.de/produkt/integrated-stepper-motors-modbus-rtu/>



Produkte:	Seite
iEM-RS2323	264
iEM-RS2313	266
iEM-RS1708	268
iEM-RS1706	270

iEM-RS2323

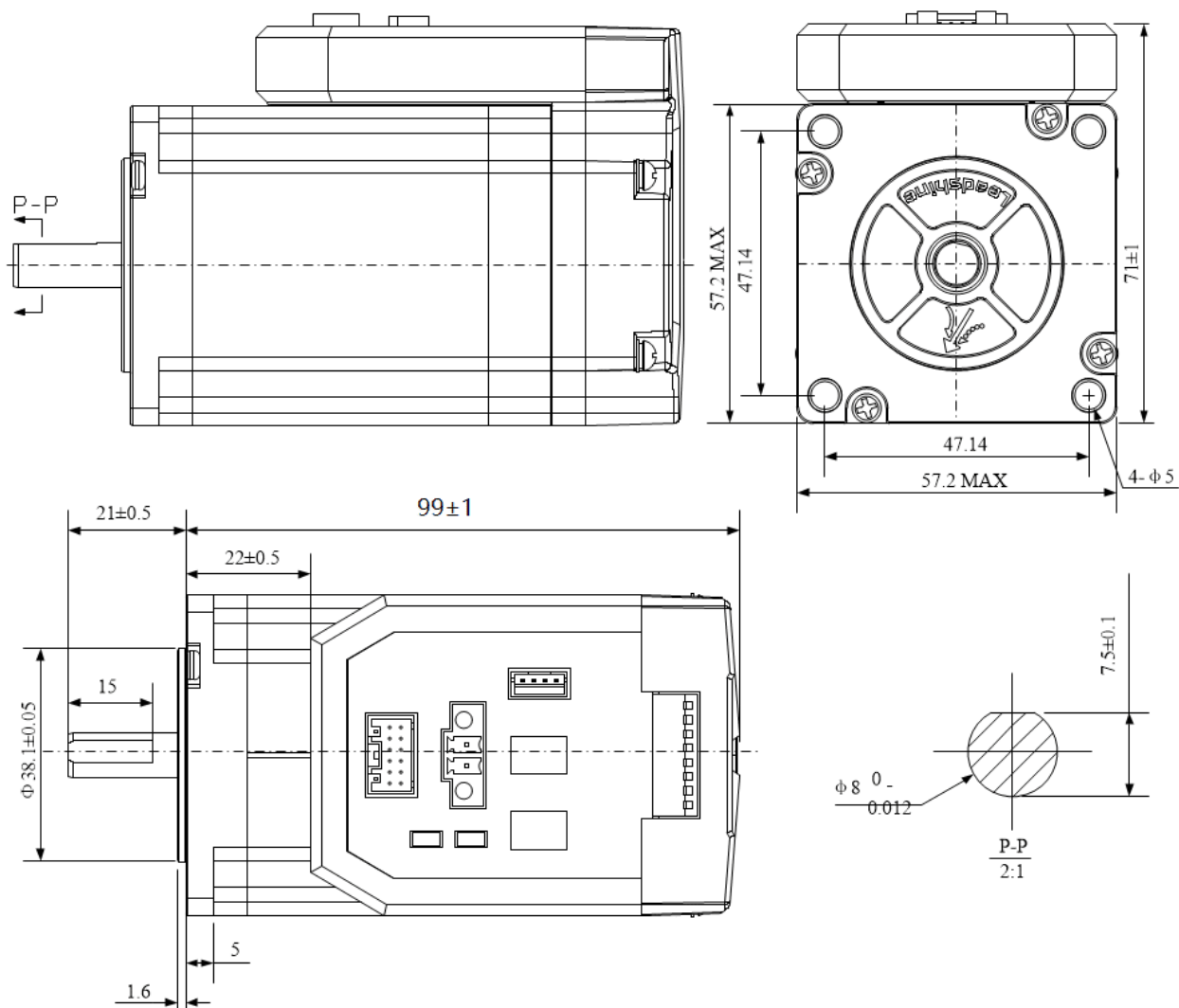
iEM series is integrated open-loop stepper motor with KOCO's latest digital stepper technology. iEM series motors output torque can up to 3.5Nm and supports Modbus RS485 communication with Indexer control function. And with a more compact design, it is especially suitable for applications with strict mounting space requirements, and it is easy to use, which can further reduce customers' procurement and labor costs.



<https://www.kocomotion.de/produkt/iem-rs2323-2/>



Specification	
Frame size	23 Nema
Length	99 mm
Holding torque	2.3 Nm
Communication	Modbus-RTU
Operation voltage	24, 36 VDC
Input frequency	10 KHz, max.
Logical voltage	12 -24 VDC
# of input	3
# of output	1



iEM-RS2313

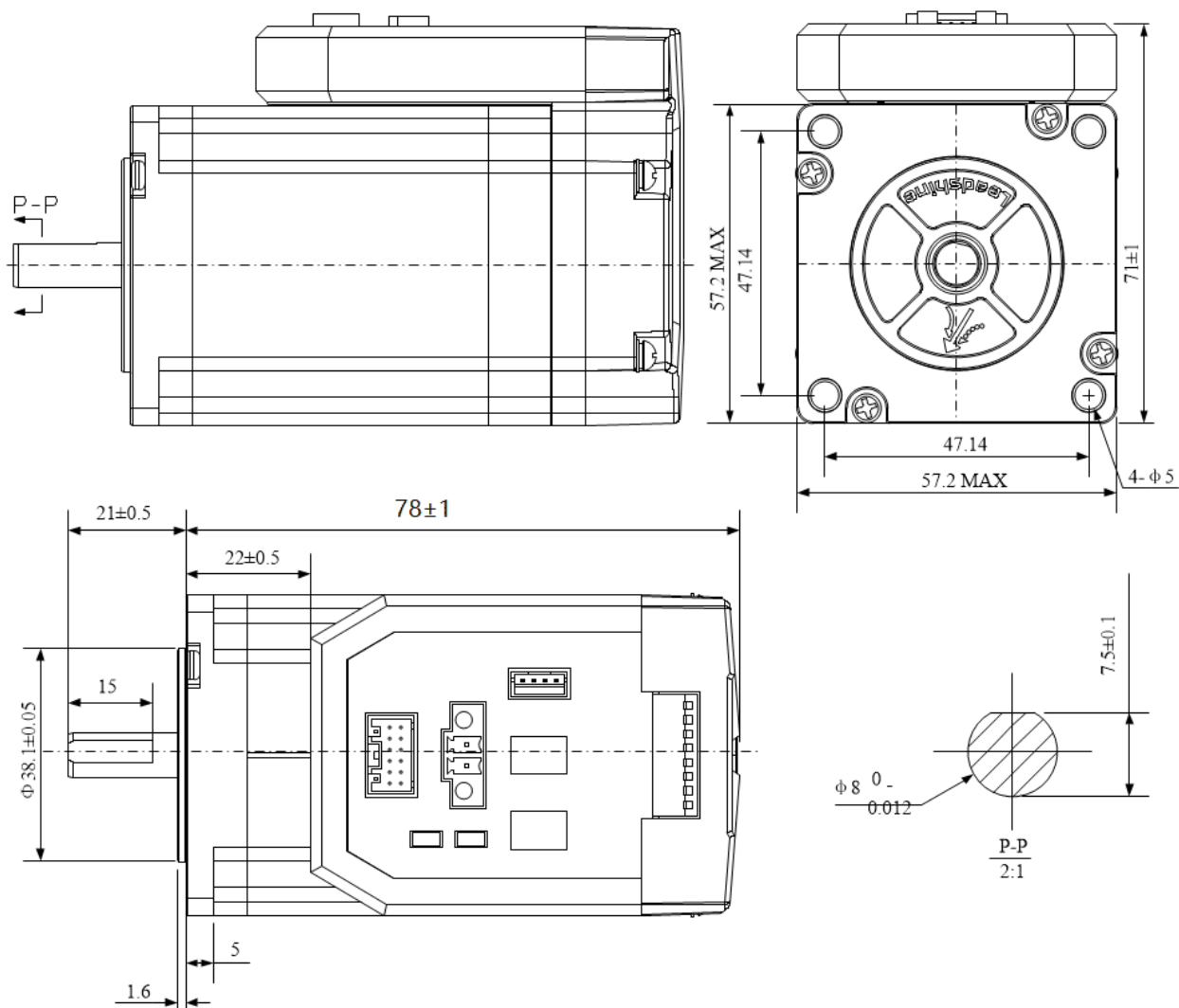
iEM series is integrated open-loop stepper motor with KOCO's latest digital stepper technology. iEM series motors output torque can up to 3.5Nm and supports Modbus RS485 communication with Indexer control function. And with a more compact design, it is especially suitable for applications with strict mounting space requirements, and it is easy to use, which can further reduce customers' procurement and labor costs.



<https://www.kocomotion.de/produkt/iem-rs2313-2/>



Specification	
Frame size	23 Nema
Length	78 mm
Holding torque	1.3 Nm
Communication	Modbus-RTU
Operation voltage	24, 36 VDC
Input frequency	10 KHz, max.
Logical voltage	12 -24 VDC
# of input	3
# of output	1



iEM-RS1708

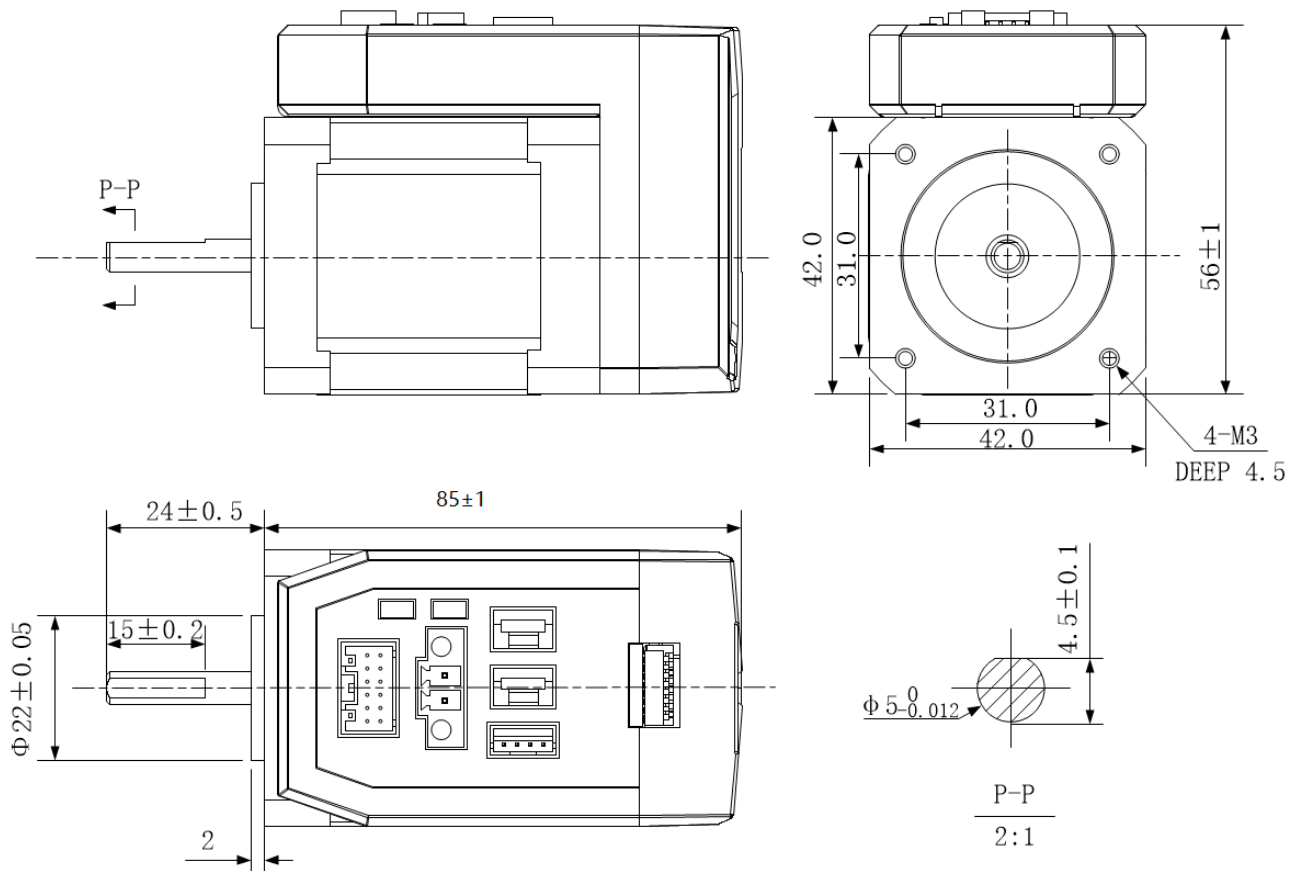
iEM series is integrated open-loop stepper motor with KOCO's latest digital stepper technology. iEM series motors output torque can up to 3.5Nm and supports Modbus RS485 communication with Indexer control function. And with a more compact design, it is especially suitable for applications with strict mounting space requirements, and it is easy to use, which can further reduce customers' procurement and labor costs.



<https://www.kocomotion.de/produkt/iem-rs1708-2/>



Specification	
Frame size	17 Nema
Length	86 mm
Holding torque	0.8 Nm
Communication	Modbus-RTU
Operation voltage	24 VDC
Input frequency	10 KHz, max.
Logical voltage	12 -24 VDC
# of input	3
# of output	1



iEM-RS1706

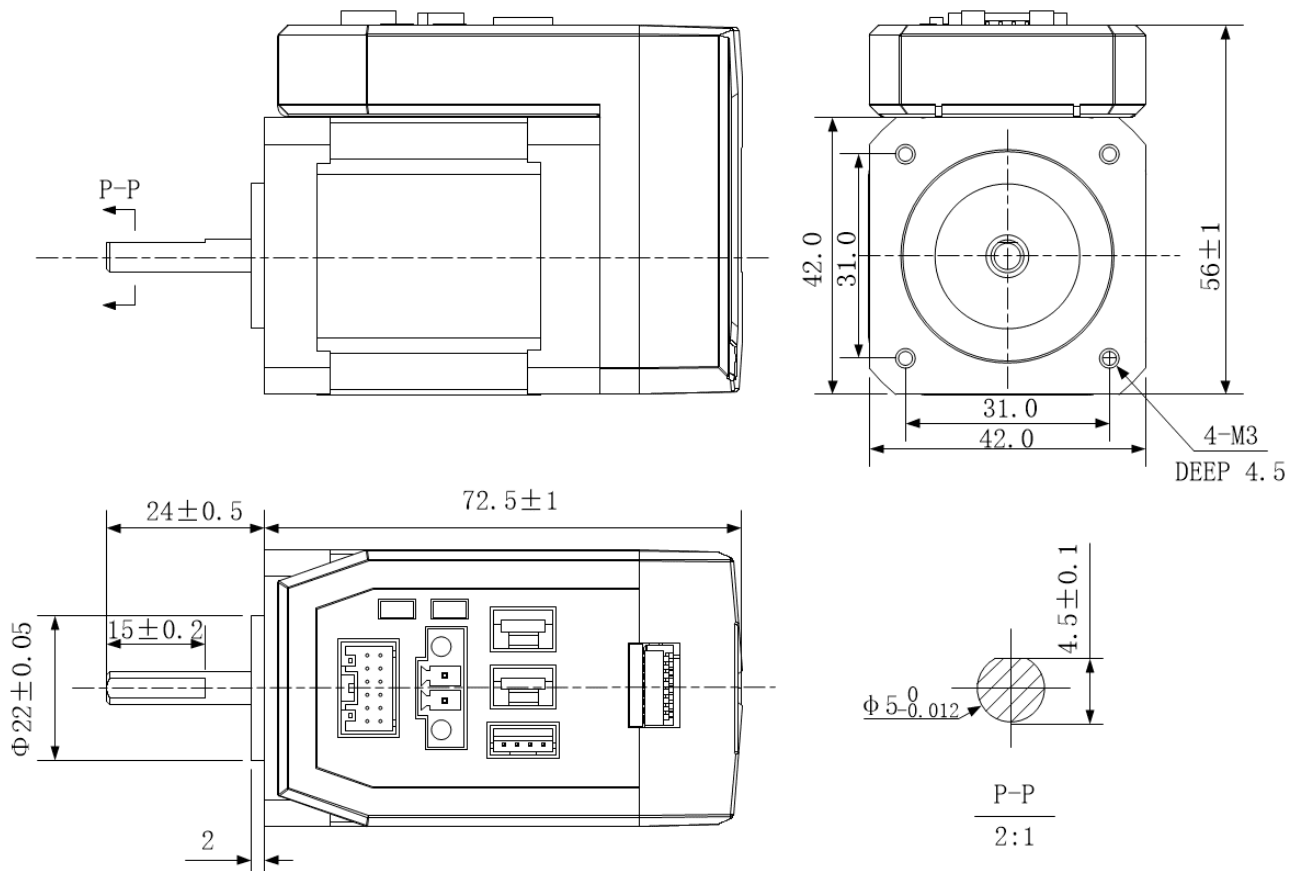
iEM series is integrated open-loop stepper motor with KOCO's latest digital stepper technology. iEM series motors output torque can up to 3.5Nm and supports Modbus RS485 communication with Indexer control function. And with a more compact design, it is especially suitable for applications with strict mounting space requirements, and it is easy to use, which can further reduce customers' procurement and labor costs.



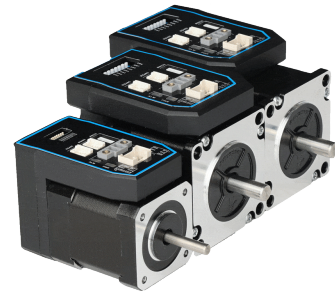
<https://www.kocomotion.de/produkt/iem-rs1706-2/>



Specification	
Frame size	17 Nema
Length	73 mm
Holding torque	0.6 Nm
Communication	Modbus-RTU
Operation voltage	24 VDC
Input frequency	10 KHz, max.
Logical voltage	12 -24 VDC
# of input	3
# of output	1



Integrated Closed Loop Stepper Motors Modbus RTU



Modbus RTU



<https://www.kocomotion.de/produkt/integrated-closed-loop-stepper-motors-modbus-rtu/>

Produkte:	Seite
iCS-RS2323	273
iCS-RS2313	275
iCS-RS1708	277
iCS-RS1706	279

iCS-RS2323

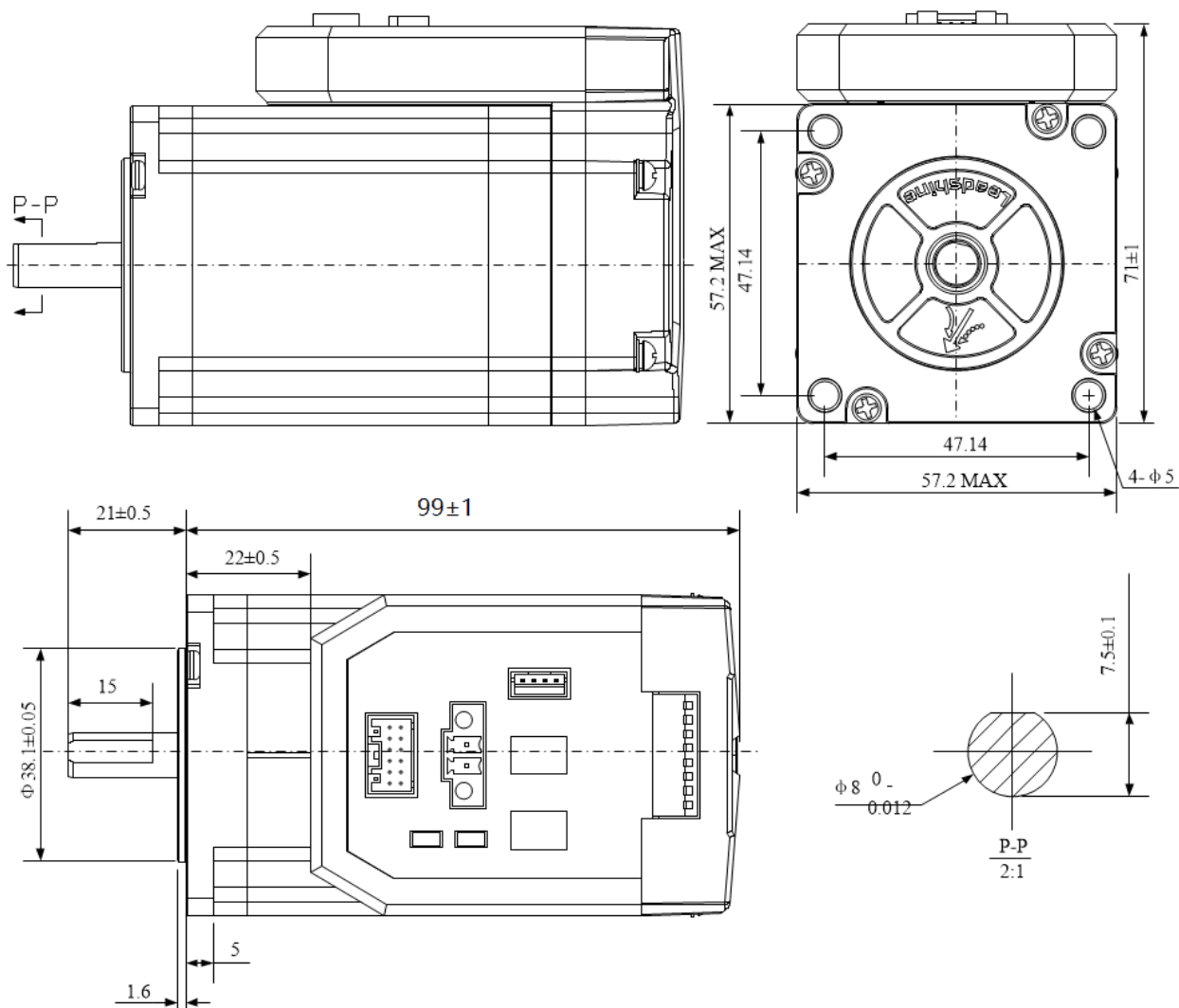
iCS series is integrated closed-loop stepper motor with 14-bit single-turn absolute encoder for smooth and jitter-free motor start-up. iCS series motors output torque can up to 3.5Nm and supports Modbus RS485 communication with Indexer control function. And with a more compact design, it is especially suitable for applications with strict mounting space requirements, and it is easy to use, which can further reduce customers' procurement and labor costs.



<https://www.kocomotion.de/produkt/ics-rs2323/>



Specification	
Frame size	17 Nema
Length	99 mm
Holding torque	2.3 Nm
Communication	Modbus-RTU
Operation voltage	24, 36 VDC
Input frequency	10 KHz, max.
Logical voltage	12 -24 VDC
# of input	3
# of output	1



iCS-RS2313

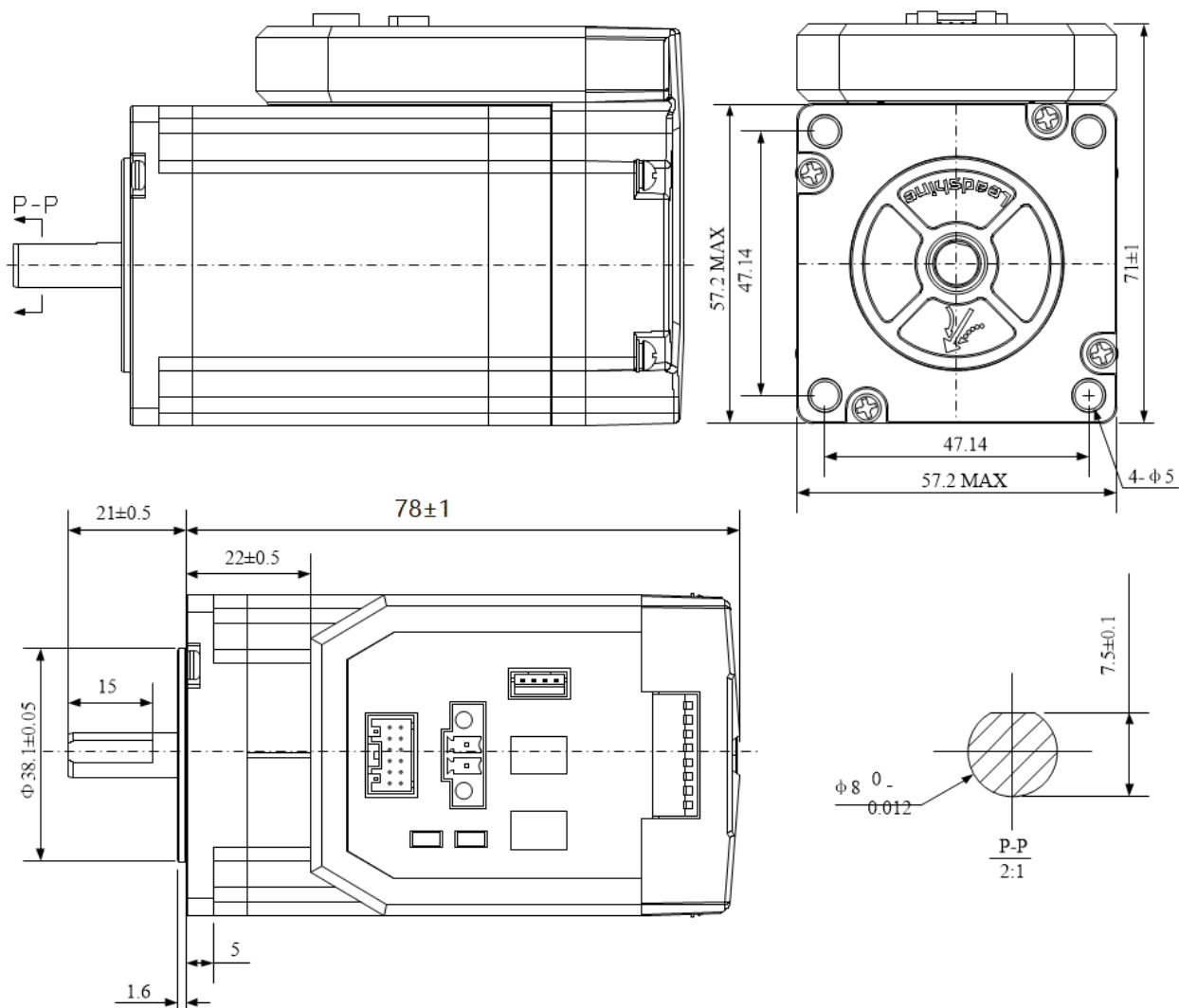
iCS series is integrated closed-loop stepper motor with 14-bit single-turn absolute encoder for smooth and jitter-free motor start-up. iCS series motors output torque can up to 3.5Nm and supports Modbus RS485 communication with Indexer control function. And with a more compact design, it is especially suitable for applications with strict mounting space requirements, and it is easy to use, which can further reduce customers' procurement and labor costs.



<https://www.kocomotion.de/produkt/ics-rs2313/>



Specification	
Frame size	17 Nema
Length	78 mm
Holding torque	1.3 Nm
Communication	Modbus-RTU
Operation voltage	24, 36 VDC
Input frequency	10 KHz, max.
Logical voltage	12 -24 VDC
# of input	3
# of output	1



iCS-RS1708

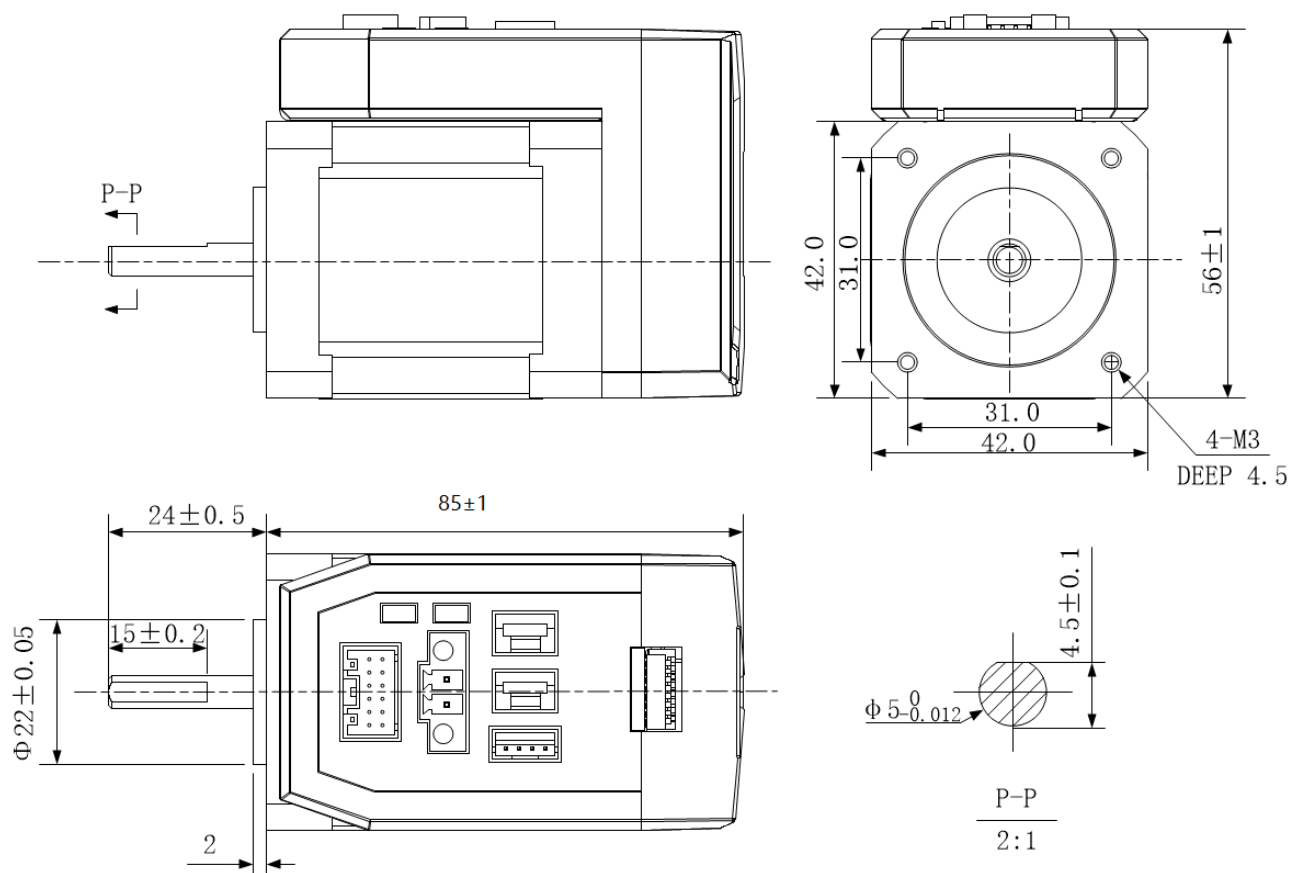
iCS series is integrated closed-loop stepper motor with 14-bit single-turn absolute encoder for smooth and jitter-free motor start-up. iCS series motors output torque can up to 3.5Nm and supports Modbus RS485 communication with Indexer control function. And with a more compact design, it is especially suitable for applications with strict mounting space requirements, and it is easy to use, which can further reduce customers' procurement and labor costs.



<https://www.kocomotion.de/produkt/ics-rs1708/>



Specification	
Frame size	17 Nema
Length	86 mm
Holding torque	0.8 Nm
Communication	Modbus-RTU
Operation voltage	24 VDC
Input frequency	10 KHz, max.
Logical voltage	12 -24 VDC
# of input	3
# of output	1



iCS-RS1706

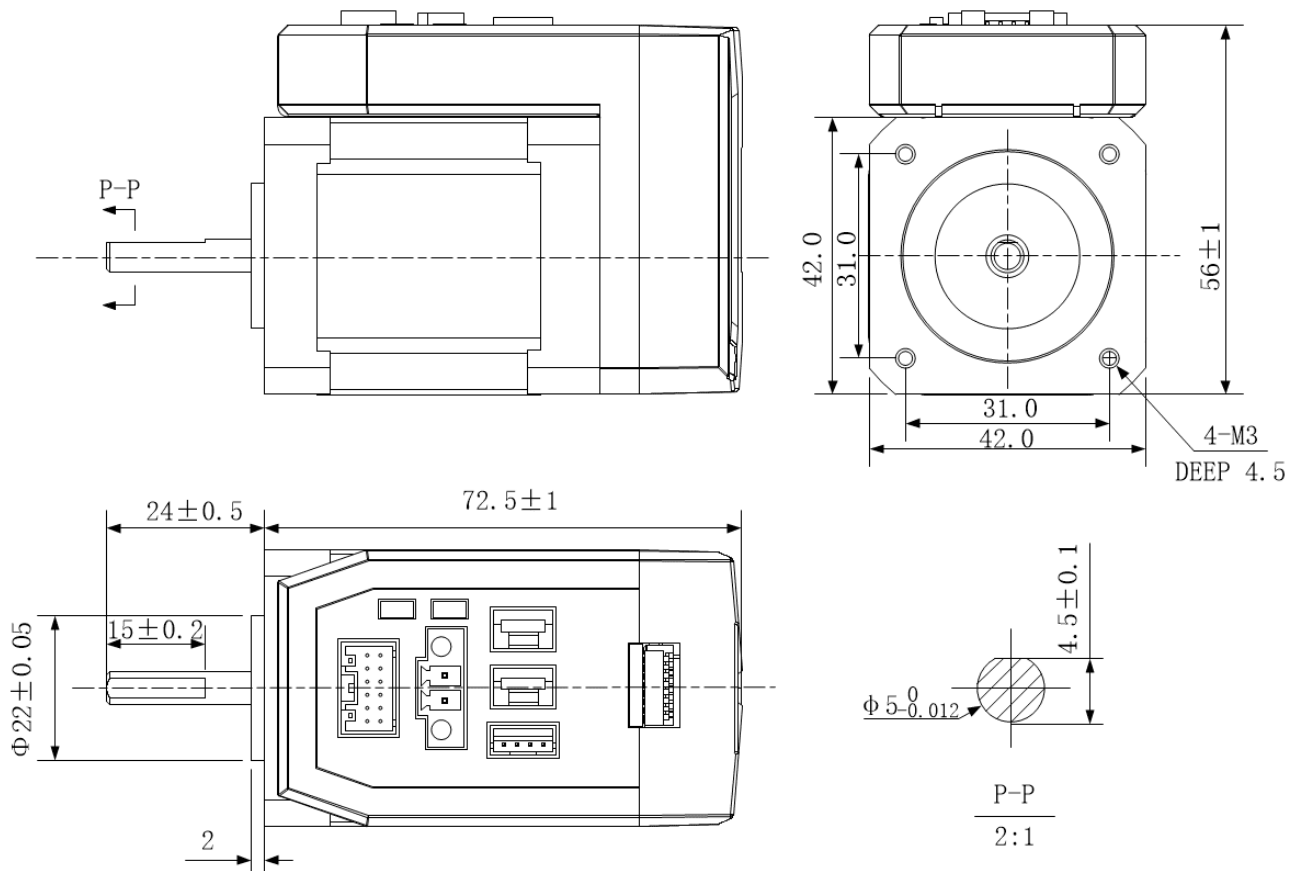
iCS series is integrated closed-loop stepper motor with 14-bit single-turn absolute encoder for smooth and jitter-free motor start-up. iCS series motors output torque can up to 3.5Nm and supports Modbus RS485 communication with Indexer control function. And with a more compact design, it is especially suitable for applications with strict mounting space requirements, and it is easy to use, which can further reduce customers' procurement and labor costs.



<https://www.kocomotion.de/produkt/ics-rs1706/>



Specification	
Frame size	17 Nema
Length	73 mm
Holding torque	0.6 Nm
Communication	Modbus-RTU
Operation voltage	24 VDC
Input frequency	10 KHz, max.
Logical voltage	12 -24 VDC
# of input	3
# of output	1

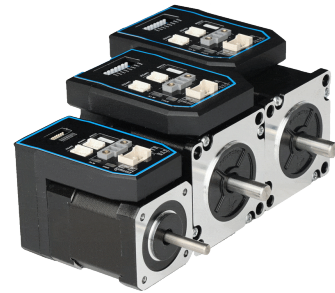


iCS-RS Series

Stepper motor with integrated 14-bit absolute magnetic encoder and controller



<https://www.kocomotion.de/produkt/ics-rs-series/>



Produkte:	Seite
iCS-RS1706	282
iCS-RS1708	284
iCS-RS2313	286
iCS-RS2323	288

iCS-RS1706

Products of the iCS-RS series are stepper motors with integrated 14-bit absolute magnetic encoder and drive, and based on standard Modbus RTU protocol, using RS485 communication can network up to 31 axes. Its built-in PR feature with 16-segment position table (PR Mode) can save additional controllers in most of point-to-point applications, to greatly enhance system reliability and reduce the cost. The iCS-RS series motors are highly reliable and affordable and performs excellently in many industrial applications such as solar equipment, textile, civil, robotics, power generation equipment, 3C, packaging...



<https://www.kocomotion.de/produkt/ics-rs1706-2/>



Specification	
Size	17 Nema
Length	73 mm
Holding torque	0.6 Nm
Communication	Modbus-RTU
Operating voltage	24 V
Max. input frequency	10 kHz
Logical voltage	12...24 V
No. of inputs	3
No. of outputs	1

Optionen

- Low noise and vibration, smooth motion
- Support Modbus RTU protocol, Internal 16-segment position Commands
- Motion can be started by External IO or RS485 or HMI
- Support operation modes: Profile Position, Profile Velocity, Homing
- 7 configurable digital inputs, 3 optically isolated digital outputs
- 14-bit single-turn incremental encoder
- iCS-RS17xx: 20-36VDC supply voltage, max output current 3.0A peak iCS-RS23xx: 20-50VDC supply voltage, max output current 7.0A peak
- RS232 port for tuning software connection, RS485 port for motion control
- Protections for over voltage, over current, etc.

iCS-RS1708

Products of the iCS-RS series are stepper motors with integrated 14-bit absolute magnetic encoder and drive, and based on standard Modbus RTU protocol, using RS485 communication can network up to 31 axes. Its built-in PR feature with 16-segment position table (PR Mode) can save additional controllers in most of point-to-point applications, to greatly enhance system reliability and reduce the cost. The iCS-RS series motors are highly reliable and affordable and performs excellently in many industrial applications such as solar equipment, textile, civil, robotics, power generation equipment, 3C, packaging...


<https://www.kocomotion.de/produkt/ics-rs1708-2/>


Specification	
Size	17 Nema
Length	86 mm
Holding torque	0.8 Nm
Communication	Modbus-RTU
Operating voltage	24 V
Max. input frequency	10 kHz
Logical voltage	12...24 V
No. of inputs	3
No. of outputs	1

Optionen

- Low noise and vibration, smooth motion
- Support Modbus RTU protocol, Internal 16-segment position Commands
- Motion can be started by External IO or RS485 or HMI
- Support operation modes: Profile Position, Profile Velocity, Homing
- 7 configurable digital inputs, 3 optically isolated digital outputs
- 14-bit single-turn incremental encoder
- iCS-RS17xx: 20-36VDC supply voltage, max output current 3.0A peak iCS-RS23xx: 20-50VDC supply voltage, max output current 7.0A peak
- RS232 port for tuning software connection, RS485 port for motion control
- Protections for over voltage, over current, etc.

iCS-RS2313

Products of the iCS-RS series are stepper motors with integrated 14-bit absolute magnetic encoder and drive, and based on standard Modbus RTU protocol, using RS485 communication can network up to 31 axes. Its built-in PR feature with 16-segment position table (PR Mode) can save additional controllers in most of point-to-point applications, to greatly enhance system reliability and reduce the cost. The iCS-RS series motors are highly reliable and affordable and performs excellently in many industrial applications such as solar equipment, textile, civil, robotics, power generation equipment, 3C, packaging...


<https://www.kocomotion.de/produkt/ics-rs2313-2/>


Specification	
Size	23 Nema
Length	78 mm
Holding torque	1.3 Nm
Communication	Modbus-RTU
Operating voltage	24...36 V
Max. input frequency	10 kHz
Logical voltage	12...24 V
No. of inputs	3
No. of outputs	1

Optionen

- Low noise and vibration, smooth motion
- Support Modbus RTU protocol, Internal 16-segment position Commands
- Motion can be started by External IO or RS485 or HMI
- Support operation modes: Profile Position, Profile Velocity, Homing
- 7 configurable digital inputs, 3 optically isolated digital outputs
- 14-bit single-turn incremental encoder
- iCS-RS17xx: 20-36VDC supply voltage, max output current 3.0A peak iCS-RS23xx: 20-50VDC supply voltage, max output current 7.0A peak
- RS232 port for tuning software connection, RS485 port for motion control
- Protections for over voltage, over current, etc.

ICS-RS2323

Products of the iCS-RS series are stepper motors with integrated 14-bit absolute magnetic encoder and drive, and based on standard Modbus RTU protocol, using RS485 communication can network up to 31 axes. Its built-in PR feature with 16-segment position table (PR Mode) can save additional controllers in most of point-to-point applications, to greatly enhance system reliability and reduce the cost. The iCS-RS series motors are highly reliable and affordable and performs excellently in many industrial applications such as solar equipment, textile, civil, robotics, power generation equipment, 3C, packaging...



<https://www.kocomotion.de/produkt/ics-rs2323-2/>

Specification	
Size	23 Nema
Length	99 mm
Holding torque	2.3 Nm
Communication	Modbus-RTU
Operating voltage	24...36 V
Max. input frequency	10 kHz
Logical voltage	12...24 V
No. of inputs	3
No. of outputs	1

Optionen

- Low noise and vibration, smooth motion
- Support Modbus RTU protocol, Internal 16-segment position Commands
- Motion can be started by External IO or RS485 or HMI
- Support operation modes: Profile Position, Profile Velocity, Homing
- 7 configurable digital inputs, 3 optically isolated digital outputs
- 14-bit single-turn incremental encoder
- iCS-RS17xx: 20-36VDC supply voltage, max output current 3.0A peak iCS-RS23xx: 20-50VDC supply voltage, max output current 7.0A peak
- RS232 port for tuning software connection, RS485 port for motion control
- Protections for over voltage, over current, etc.



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