

## FLEXI PRO DRIVE TYPE

|            |        |                                      |                   |              |                       |
|------------|--------|--------------------------------------|-------------------|--------------|-----------------------|
| FPRO       | 006    | 2A                                   | AP                | 1            | XX                    |
| Drive Name | Rating | AC and Controller Input Power Supply | Interface Options | Analog Input | Special Specification |
|            | 1      | 2                                    | 3                 | 4            | 5                     |



1

|     | Rating        |              |
|-----|---------------|--------------|
|     | 120/240 VAC   |              |
|     | Cont. [A rms] | Peak [A rms] |
| 1D5 | 1.5           | 4.5          |
| 003 | 3             | 9            |
| 4D5 | 4,5           | 18           |
| 006 | 6             | 18           |
| 008 | 8             | 28           |
| 010 | 10            | 28           |
| 013 | 13            | 28           |
| 020 | 20            | 48           |
| 024 | 24            | 48           |

|     | Rating        |              |
|-----|---------------|--------------|
|     | 400/480 VAC   |              |
|     | Cont. [A rms] | Peak [A rms] |
| 003 | 3             | 9            |
| 006 | 6             | 18           |
| 012 | 12            | 24           |
| 024 | 24            | 72           |
| 030 | 30            | 90           |

2

| AC and Controller Input Power Supply |                                                        |
|--------------------------------------|--------------------------------------------------------|
| 2A                                   | Input Single Phase 120L - L VAC +10% -15% 50/60Hz      |
|                                      | Input Single Phase 240L - L VAC +10% -15% 50/60Hz      |
|                                      | Input Three Phase 120 - 240L - L VAC +10% -15% 50/60Hz |
| 4D                                   | AC Input Power Supply:                                 |
|                                      | - Input Three Phase 400L - L VAC +10% -15% 50/60Hz     |
|                                      | - Input Three Phase 480L - L VAC +10% -15% 50/60Hz     |
|                                      | 24VDC input for control board power supply             |

3

Interface Options

AF - Analog Voltage/Pulse Train Ref & CANopen® & USB & RS 232  
 EC - EtherCAT, USB, RS232  
 EB - EtherCAT, USB (two analog inputs only)

4

Analog Input

1 - One Analog input, 16 bit  
 2 - Two Analog inputs, 14 bit each

## PATENTED MAGNETIC ENCODER

The original magnetic encoder features a simple mechanical design that allows the same level of resolution and accuracy as optical absolute encoders whilst reducing complexity.

The simplicity is the key to achieving compactness, high resolution and accuracy at a competitive cost. This original encoder offers a resolution of 20 bit and an accuracy of  $\pm 0.02^\circ$ . Advanced signal processing applies a unique patented method.

Featuring only few mechanical components and no optical elements, the encoder is less sensitive to contamination and mechanical tolerance deviations. Furthermore, lifetime expectancy of the encoder is higher due to the elimination of both optical components and bearings.



SEE IT BEFORE IT HAPPENS

**MOTOR  
POWER**  
COMPANY

The FLEXI PRO series features a high-performance digital servo drive offering advanced functionality, high power density and seamless commissioning in a superior package. The innovative hardware design and software algorithms boast outstanding performance in one of the smallest footprints in the market.

## FEATURES

- > **INNOVATIVE AND PATENTED 20 BIT ABSOLUTE MAGNETIC ENCODER**
- > **MULTIFEEBACK**
- > **DIGITAL I/O: 11 DIGITAL INPUT AND 6 OUTPUT CUSTOMIZABLE WITH SEVERAL BUILT-IN FUNCTIONS AND INTERNAL SCRIPT**
- > **CONTROL: HD ADVANCED CONTROL LOOP WITH ADAPTIVE GAINS**
- > **SERVO MODES: TORQUE, VELOCITY AND POSITION WITH S-CURVE PROFILE**
- > **STO SIL 2**
- > **INTEGRATED SUPPORT FOR EXTERNAL BRAKING RESISTOR**
- > **COMPLETE MOTOR DATABASE**

## BENEFITS

- > **INTELLIGENT AUTO-TUNING - MINIMIZES POSITION ERROR AND SETTLING TIME TO ALMOST ZERO**

Engineering experience and expertise has been implemented in a sophisticated Auto-Tuning function that performs optimal configurations for a difference-making performance

- > **NEW CURRENT LOOP DESIGN - ACHIEVES AN INDUSTRY-LEADING FREQUENCY RESPONSE OF UP TO 3.0 KHZ**

Rapid control loop sample rates and flexible filtering options provide a faster response, and ensure maximum machine accuracy and throughput

- > **INNOVATIVE ANTI-VIBRATION ALGORITHM - ELIMINATES MECHANICAL RESONANCE**

An active-non-linear algorithm eliminates vibration in highly flexible resonant systems. Commissioning is easy since only few gain parameters are required



## INTERFACE

- > **USB WITH DAISY CHAIN CAPABILITY**
- > **PULSE & DIRECTION**
- > **ANALOG VELOCITY AND TORQUE COMMAND  $\pm 10V$**
- > **CANopen**
- > **EtherCAT**

# FLEXIBLE AND COMPREHENSIVE

## PRODUCT DATA

| FEATURE                       | UNITS    | FPRO 1D5                 | FPRO 003 | FPRO 4D5                      | FPRO 006 | FPRO 008   | FPRO 010 | FPRO 013                | FPRO 020    | FPRO 024 | FPRO 003                | FPRO 006 | FPRO 012                                                | FPRO 024 | FPRO 030 |
|-------------------------------|----------|--------------------------|----------|-------------------------------|----------|------------|----------|-------------------------|-------------|----------|-------------------------|----------|---------------------------------------------------------|----------|----------|
| Input Voltage                 | VAC      | 120/240 VAC Single Phase |          | 240 VAC Single or Three Phase |          |            |          | 120/240 VAC Three Phase |             |          | 400/480 VAC Three Phase |          |                                                         |          |          |
| Max Continuous power output   | W        | 350                      | 700      | 1000                          | 1400     | 1800       | 2300     | 3000                    | 4500        | 5500     | 1100                    | 2200     | 4400                                                    | 9000     | 11000    |
| Efficiency at rated Power     | %        | > 90                     |          |                               |          |            |          |                         |             |          |                         |          |                                                         |          |          |
| Auxiliary Supply Voltage      |          | 120 .. 240 Vac           |          |                               |          |            |          |                         |             |          | 24 Vdc                  |          |                                                         |          |          |
| Continuous current rms        | A rms    | 1,5                      | 3        | 4,5                           | 6        | 8          | 10       | 13                      | 20          | 24       | 3                       | 6        | 12                                                      | 24       | 30       |
| Peak current                  | A rms    | 4,5                      | 9        | 18                            | 18       | 28         | 28       | 28                      | 48          | 48       | 9                       | 18       | 24                                                      | 72       | 90       |
| Ambient Operating Temperature | °C       | 0 to + 45                |          |                               |          |            |          |                         |             |          |                         |          |                                                         |          |          |
| Maximum Humidity              | %        | 90% not condensing       |          |                               |          |            |          |                         |             |          |                         |          |                                                         |          |          |
| Vibration                     |          | 0.6G 10-60 Hz            |          |                               |          |            |          |                         |             |          |                         |          |                                                         |          |          |
| Shock                         |          | 1 G                      |          |                               |          |            |          |                         |             |          |                         |          |                                                         |          |          |
| Mounting Method               |          | Wall Mount               |          |                               |          |            |          |                         |             |          |                         |          |                                                         |          |          |
| Dimensions                    | WxDxH mm | 43x144x150               |          | 55x167x150                    |          | 62x182x170 |          |                         | 117x194x234 |          | 110x193x163             |          | FPRO 012 117x194x234<br>FPRO 024 - FPRO 030 147x209x353 |          |          |
| Weight                        | Kg       | 0,7                      | 0,75     | 0,97                          | 0,97     | 1,15       | 1,15     | 1,15                    | 3,2         | 3,2      | 2,1                     | 2,1      | 3,2                                                     | 10,5     | 10,5     |

## FLEXI PRO SUITE

### > SIMPLIFIES SETUP, TESTING AND TUNING

User-friendly FLEXI SUITE software provides step-by-step guidance through the setup and tuning process. Setup and testing are intuitive thanks to auto-tuning functions and graphic representations of control loops

