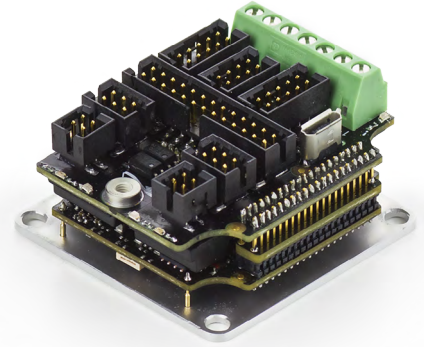


TRITON GO

DIGITAL SERVO DRIVE

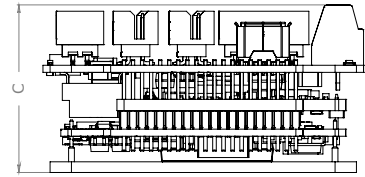
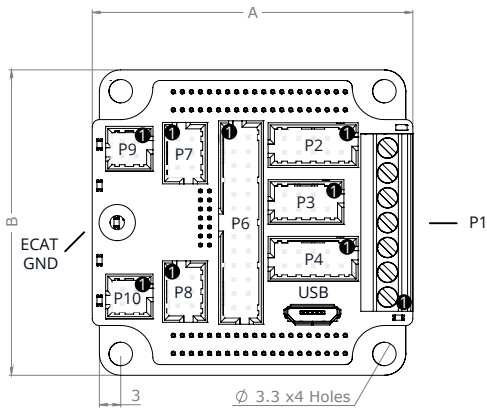
The micro servo drive Triton provides top performance and fully featured motion controller. With a footprint of just 43 x 43 mm it can control multiple motor types and is ready to interface EtherCAT or CANopen networks.

- ✓ Ultra compact design
- ✓ CANopen and EtherCAT
- ✓ Standalone operation
- ✓ Plug and Play



| Triton Digital Servo Drive | Units | TRI-1/48 | TRI-4/48 | TRI-7/48 |
|-------------------------------------|------------------|---|--|----------|
| Supply Voltage | V _{DC} | | 8 - 48 | |
| Maximum Phase Peak Current (2 s) | A _{RMS} | 1 | 4 | 13 |
| Maximum Phase Continuous Current | A _{RMS} | 1 | 4 | 7 |
| Standby Power Consumption | W | | 1.5 | |
| Efficiency | % | | >95 | |
| Supported Motor Types | | Rotary and Linear Brushless, Brush DC, Voice Coil | | |
| Commutation | | Sinusoidal and Trapezoidal | | |
| Minimum Motor Inductance | µH | | 100 | |
| Power Stage PWM Frequency | kHz | | 20, 80 (Configurable) | |
| Current Sensing | | | 2Ø, ± 1% Accuracy, 10 bit | |
| Commutation Sensors | | Digital Halls, Incremental Encoder, PWM, Analog | | |
| Supported Feedback | | SSI, Sin/Cos , Tacho, Digital/Analog Halls, Incremental Encoder, PWM, Analog Input | | |
| Torque Loop Update Rate | kHz | | 10 | |
| Position and Velocity Update Rate | kHz | | 1 | |
| Motion Modes | | Cyclic Sync, Interpolated, Profilers (Position, Velocity, Torque), Homing, Open Loop | | |
| Supported Command Sources | | Network, USB, Serial, Analog Input, PWM , Encoder Follower/Electronic Gearing, Step and Direction, Standalone | | |
| Motion Controller | | Yes, Standalone Operation with 64 Macros of 64 Commands | | |
| Digital Inputs | | | 4 (TTL and PLC) | |
| Analog Inputs | | | 1 (±10 V), 1 (0-5 V) | |
| Digital Outputs | | | 4 (TTL and PLC) | |
| User Configurable Protections | | STO Full Functionality, Bus Overvoltage and Undervoltage, Over and Under Temperature, Over Current, Overload (I ² T), Open Load Protection | | |
| Hardware Protections | | Short-circuit protections, ESD and EMI protections, Inverse Polarity Supply Protection, High Power Transient Voltage Suppressor for Short Braking | | |
| Software Protections | | Mechanical Limits for Homing Modes, Hall Sequence/Combination Error | | |
| USB | | | Yes | |
| Serial | | | RS-485 | |
| CANopen | | Yes (DS-301, DS-303, DS-305, DS-306, DS-402) | | |
| EtherCAT | | | Yes (CoE) | |
| Ambient Air Temperature (operating) | °C | | -40 to 100 (over 50 with current derating) | |
| Ambient Air Temperature (storage) | °C | | -50 to 125 | |
| Maximum Humidity (non-condensing) | % | | 5 to 85 | |
| Dimensions | mm (in) | | 43 x 45 x 23.5 (1.69 x 1.77 x 0.93) | |
| Weight | g (oz) | | 42 (1.48) | |

DRAWINGS



| Dimension (mm) | TRI-X/48 |
|----------------|----------|
| A | 45 |
| B | 43 |
| C | 23.5 |

PINOUT

P1 CONNECTOR

| | |
|----|-------|
| 01 | PH_A |
| 02 | PH_B |
| 03 | PH_C |
| 04 | PE |
| 05 | GND_P |
| 06 | SHUNT |
| 07 | +SUP |

P3 CONNECTOR

| | |
|----|-----------|
| 01 | PE |
| 02 | +3.3V_OUT |
| 03 | +5V_OUT |
| 04 | GND_D |
| 05 | CLK+ |
| 06 | CLK- |
| 07 | DATA+ |
| 08 | DATA- |

P6 CONNECTOR

| | |
|----|------------|
| 01 | PE |
| 02 | GND_D |
| 03 | DIFF_GPI1- |
| 04 | DIFF_GPI1+ |
| 05 | HS_GPI2- |
| 06 | HS_GPI2+ |
| 07 | LS_GPI1 |
| 08 | LS_GPI2 |
| 09 | LS_GPI3 |
| 10 | LS_GPI4 |
| 11 | GPO1 |
| 12 | GPO2 |
| 13 | GPO3 |
| 14 | GPO4 |
| 15 | GND_D |
| 16 | +5V_OUT |
| 17 | NC |
| 18 | AN_IN1 |
| 19 | AN_IN2- |

P6 CONNECTOR

| | |
|----|-------------|
| 20 | AN_IN2+ |
| 21 | GND_D |
| 22 | GND_D |
| 23 | LED_RUN_K |
| 24 | LED_ERR_K |
| 25 | LED_LINK1_K |
| 26 | LED_LINK0_K |

P8 CONNECTOR

| | |
|----|------------|
| 01 | STO_COMMON |
| 02 | GND_D |
| 03 | STO_1 |
| 04 | +5V_OUT |
| 05 | STO_2 |
| 06 | +5V_OUT |

P2 CONNECTOR

| | |
|----|------------|
| 01 | PE |
| 02 | +5V_OUT |
| 03 | GND_D |
| 04 | MOTOR_TEMP |
| 05 | GND_D |
| 06 | NC |
| 07 | HALL1 |
| 08 | HALL2 |
| 09 | GND_D |
| 10 | HALL3 |

P4 CONNECTOR

| | |
|----|-----------|
| 01 | PE |
| 02 | +5V_OUT |
| 03 | GND_D |
| 04 | +3.3V_OUT |
| 05 | ENC_A- |
| 06 | ENC_A+ |
| 07 | ENC_B- |
| 08 | ENC_B+ |
| 09 | ENC_Z- |
| 10 | ENC_Z+ |

P7 CONNECTOR

| | |
|----|---------|
| 01 | PE |
| 02 | GND_D |
| 03 | RX_485+ |
| 04 | TX_485+ |
| 05 | RX_485- |
| 06 | TX_485- |

P9-P10 ETHERCAT

| | |
|----|-------|
| 01 | TX_D+ |
| 02 | RX_D+ |
| 03 | TX_D- |
| 04 | RX_D- |

P9-P10 CANOPEN

| | |
|----|----------------|
| 01 | NC (P9) |
| 01 | CAN_TERM (P10) |
| 02 | CAN_GND |
| 03 | CAN_L |
| 04 | +CAN_H |

PART NUMBERING INFORMATION

TRI X / XX - Y - Z

Power model:

1/48 = 1 A cont, 1 A peak @ 8-48 VDC
 4/48 = 4 A cont, 4 A peak @ 8-48 VDC
 7/48 = 7 A cont, 13 A peak @ 8-48 VDC

Interfaces:

S = RS-485/USB
 C = RS-485/USB/CANopen
 E = RS-485/USB/EtherCAT

Connectivity:

C = Connectors

Option

Cable Kit
 Connectors and Crimping Kit

Part Number

C-MG-CABLEKIT
 C-MG-CRIMPKIT

