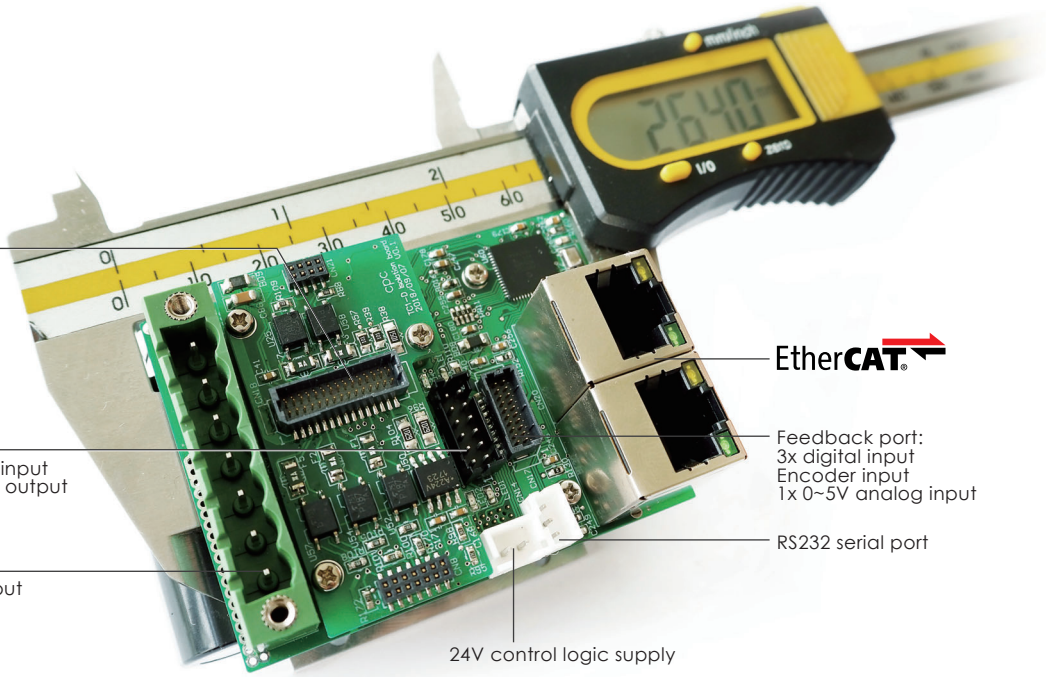
TC SERIES

DC Servo Driver

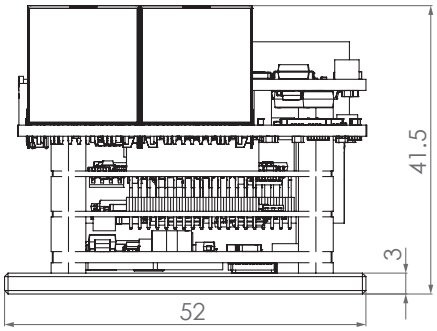
TC1-D

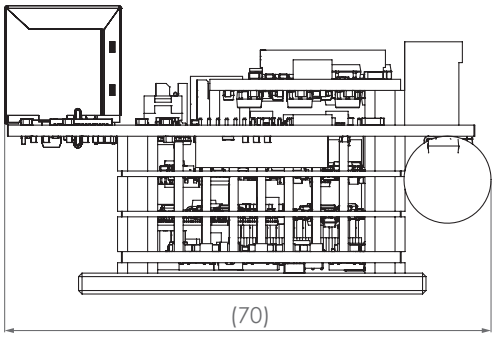
Product Overview

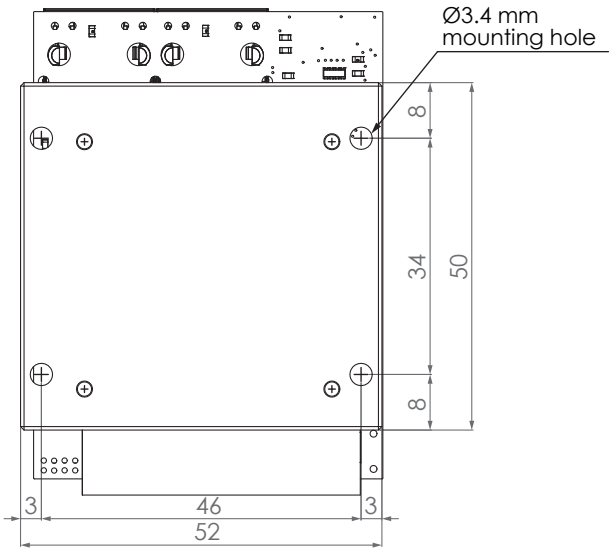
- *Ultra small*
- *Powerful*
- *Customized*



Dimension







Ordering Information

TC1-	D	30	48	S	E

E: Fieldbus type: Blank: CANopen, E: EtherCAT

S: Case type: S: Miniture connector board, C: Core module only, L: Bookshelf style case

48: DC supply: 48VDC

30: Continuous current (Amps): 30

D: DC supply type

TC1-: Servo Driver

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Specification TC1-D

Model			TC1-D/48E
Input Power	Voltage (VDC)		48VDC
	DC Bus Peak Voltage (VDC)		55VDC
	Power Rating (W)		1440
Control Logic Power	Voltage Range (VDC)		24 VDC or 48 VDC
	Current (A)		> 0.5
Peak power output (kW)			2.88
Peak current output (A)			60
Cont. current output (A)			30
Regenerative resistor	Resistance (Ohm)		5 (option)
	Continuous dissipation (Watt)		60 (option)
Regenerative resistor switch cont. current (A)			9.6
Fieldbus (DS402 V3.0)			EtherCAT
DS402 Operation modes			PP, PV, PT, HM, CST, CSV, CSP
Serial bus			RS232
Motor type			Linear/Rotary PMSM
Encoder Input	Digital	Type	A/B Incremental (RS422 signaling)
		Work Frequency	Max. 20 Mega counts/s
		Count Rage	$\pm 2^{31}$counts
	Analog (sin / cos)	Amplitude	$1V_{P-P}$
		Work Frequency	100 kHz, 4096 Cnt/Period Interpolation
	Absolute	Type	BiSS-C, Tamagawa, EnDat 2.2, SSI
Feedback position error mapping			Yes
Current control	Loop Frequency		20 KHz
	PWM modulation		SVPWM
	Command input		Serial, Fieldbus, ±10 V Analog, internal software
Velocity control	Loop Frequency		10 KHz
	Command input		Serial, Fieldbus, ±10 V Analog, internal software
	Output filter		x3 (Low-pass or Notch)
	Counter range		−2 , 147 , 483 , 648 to 2 , 147 , 483 , 647 counts/second
Position control	Loop Frequency		5 KHz
	Command input		Pulse command (A/B, Step/Dir, CW/CCW), Serial, Fieldbus, ±10 V Analog, internal software
	Trajectory generator		Trapezoidal with S-curve filter
	Counter range		−2 , 147 , 483 , 648 to 2 , 147, 483 , 647 counts
Analog Input	Input type		x1 (±10 V differential) , x1 (±10 V Single-end)
	ADC resolution		12 bit
Pulse command frequency	RS422		Max. 10 MHz
	5V single-end		Max. 1 MHz
Total Digital Inputs			x6 (5~24 V)
Total Digital Outputs (open-collector)			x3 (24V, 400 mA), x3 (24 V, 200 mA)
High speed Position compare output			x1 (RS422)
Autotuner			Current/Velocity/Position loop gain, motor phasing setup, sin/cos encoder calibration
Gain switch function			Yes
Software protection			Dynamic brake, motor over-current, over/under-position, over-velocity. Virtual/physical position limit switch, missing hall signal, external fault trigger
Hardware protection			Drive over-temperature (analog), 5V output short circuit, motor over-temperature (analog)
Dimensions (LxHxW)(mm)			75 x 40 x 52 (excluding optional heatsink)
Weight (Kg)			0.128 (excluding optional heatsink)
Operating temperature			10~40 ˚C

Note : Additional heatsink required to ensure continuous operation at rated output.