

TC80-CCL TC80-D3V TC80-EIP

DIN RAIL MOUNT TORQUE CONVERTER FOR UTM III / UTM II / UTMV



Specifications

Analog section	- Torque sensor input (voltage input)	
	Signal input range	-10 to +10 V (UTM III) Input resistance 1 M Ω or more -5 to +5 V (UTM II / UTMV) Input resistance 1 M Ω or more
	Accuracy	Non-linearity: Within 0.02% FS \pm 1 digit Zero drift: Within 0.2 mV/ $^{\circ}$ C RT1 Gain drift: Within 0.01%/ $^{\circ}$ C
	A/D converter	Speed: 16000 times/sec. Resolution: 24 bit (binary) 1/30000 with respect to 10 V
	Digital low pass filter	PASS, 3 Hz to 1 kHz (TC80-CCL) / PASS, 1 Hz to 1 kHz (TC80-D3V, TC80-EIP)
	Digital high pass filter	PASS, 1 Hz to 1 kHz (TC80-D3V, TC80-EIP)
	- Rotation speed input for high speed (Pulse input, open collector) (UTM III / UTM II / UTMV)	Based on UTM III / UTM II / UTMV
	Maximum input frequency	Select from 15, 10, 5, 3, or 2 rpm (when pulse rate is 4 ppr)
	Minimum input frequency	Select from 60, 40, 20, 12, or 8 rpm (when pulse rate is 1 ppr)
	Minimum detection pulse width	50 μ s
	Circuit configuration	No-voltage contact input (minus common) Open collector connectable (I _c = Approx. 10 mA)
	- Rotation speed input for low speed (Pulse input, open collector) * For using rotary encoder option	5000 rpm
	Maximum input frequency	0.1 rpm * The resolution depends on the settings of the rotation speed and the number of the output pulse.
	Minimum input frequency	5 μ s
	Minimum detection pulse width	No-voltage contact input (minus common)
	Circuit configuration	Open collector connectable (I _c = Approx. 10 mA)
Display section	- Encoder input (Pulse input)	Compatible with encoder option of UTM III / UTM II
	Display unit	Character height 8 mm Numerical display by 7-segment green LED
	Display content	Switchable numeric display: torque, rotation speed, angle (TC80-CCL) torque, rotation speed, power/angle (TC80-D3V, TC80-EIP)
	Display frequency	Selectable from 1, 3, 6, 13, and 25 times/sec.
External I/O section	Status display	RUN / SD / RD / ERR (TC80-CCL), MS / NS (TC80-EIP)
	Output signal (2)	Selectable/configurable Transistor's open collector output V _{ceo} = 30 V, I _c = 50 mA
	Input signal (1)	Selectable/configurable Contact (relay, switch, etc.) or non contact (transistor, photo coupler, etc.) Input is ON when shorted to COM terminal
	Interface	USB: USB interface CCL: CC-Link interface (TC80-CCL) D3V: D/A converter voltage output (3 ch) (TC80-D3V)
General performance	EIP: EtherNet/IP interface (TC80-EIP) 485: RS-485 interface	
	Power supply voltage	DC 24 V \pm 15%
	Power consumption	6 W typ. (TC80-CCL, TC80-D3V), 7 W typ. (TC80-EIP)
	Operating conditions	Operation: -10 to +50 $^{\circ}$ C Storage: -20 to +85 $^{\circ}$ C Humidity: 85%RH or less (non-condensing)
Dimensions	Dimensions	34(W) x 88(H) x 91(D) mm (Projections excluded)
	Weight	Approx. 230 g
Attachments	Quick manual	2
	Mini driver	1
	CC-Link connector (TC80-CCL)	1
	Ferrite core (TC80-CCL)	1
Optional accessories	Operating tool (TC80-D3V)	1
	Various I/O connector	2 (TC80-CCL, TC80-EIP), 3 (TC80-D3V)
	CATM321: Cable for UTM III connection 2 m	CATM351: Cable for UTM III connection 5 m
	CATM312: Cable for UTM III connection 10 m	CATM21: Cable for UTM II connection 2 m
CE marking certification	CATM51: Cable for UTM II connection 5 m	CATM12: Cable for UTM II connection 10 m
	CATM(R)321: Cable for connection UTM III rotary encoder 2 m	CATM(R)351: Cable for connection UTM III rotary encoder 5 m
	CATM(R)21: Cable for connection UTM II rotary encoder 2 m	CATM(R)51: Cable for connection UTM II rotary encoder 5 m
	CATM(RC)321: Cable for UTM III (RC) connection 2 m	CATM(RC)351: Cable for UTM III (RC) connection 5 m
	CA81-USB: miniUSB-computer USB cable 1.8 m	CN7A: Connector for D/A converter (3 ch) (Same as attachment)
	CN74: CC-Link connector (Same as attachment)	CN75: CC-Link connector (Y type branch connector)
	CN76: CC-Link connector (Terminator connector)	CN85: 13p connector for power source/sensor/RS-485 (Same as attachment)
	CN87: 10p connector for external I/O (Same as attachment)	E04SR21132: Ferrite core
	TSU03: Lightning surge protector (DC)	
	EMC directives EN61326-1	

CE RoHS2 EtherNet/IP CC-Link

Suitable torque meter UTM III UTM II UTMV UTF II

- High-speed sampling at 16000 times/sec.!!
- Equipped with display connection data(*1) of UTM III / UTF II and comparison function.
- Display torque & rotation speed. Torque-angle curve also can be monitored.
- Equipped with hold data memory function (Torque, rotation speed & angle. Store 100 latest data)
- The unit supplies electric power to UTM III / UTM II / UTMV. (Also to an optional rotary encoder(*2))

*1 RS-485 interface (torque, rotation speed)

*2 Rotary encoder option is not available for UTMV.

Application software for USB interface

With communication through USB interface, logging, graph display, setting parameters, and calibration can be done.

Compact size

It can be fit into a limited space!
Light weight & compact body for 35 mm DIN rail mount.



Structure of product code

TC80-□	① Standard unit
①	Sign Interface
TC80-CCL	CC-Link RS-485, USB
TC80-D3V	D/A converter voltage output (3 ch) RS-485, USB
TC80-EIP	EtherNet/IP RS-485, USB

External dimension

