

# 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 MΩ or more -5 to +5 V (UTM II/UTMV) Input resistance 1 MΩ or more
	Accuracy	Non-linearity: Within 0.02% FS±1 digit Zero drift: Within 0.2 mV/°C RTI Gain drift: Within 0.01%/°C
	A/D converter	Speed: 16000 times/sec. Resolution: 24 bit (binary) 1/30000 with respect to 10 V
Display section	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 (Pulse input, open collector) (UTM III/UTM II/UTMV)	
	Maximum input frequency	Conforming to the maximum rotation speed of UTM III/UTM II/UTMV
	Minimum input frequency	Selectable from 15, 10, 5, 3, or 2 rpm (when pulse rate is 4 ppr) Selectable from 60, 40, 20, 12, or 8 rpm (when pulse rate is 1 ppr)
	Minimum detection pulse width	50 μs
	Circuit configuration	No-voltage contact input (minus common) Open collector connectable (Ic = Approx. 10 mA)
	- Rotation speed input (Pulse input, open collector) * For using rotary encoder option	
	Maximum input frequency	Conforming to the maximum rotation speed of UTM III/UTM II
	Minimum input frequency	0.1 rpm * The resolution depends on the settings of the rotation speed and the number of the output pulse.
Minimum detection pulse width	5 μs	
Circuit configuration	No-voltage contact input (minus common) Open collector connectable (Ic = Approx. 10 mA)	
- Encoder input (Pulse input)		
	Compatible with encoder option of UTM III/UTM II	
Display section	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.
	Status display	RUN / SD / RD / ERR (TC80-CCL), MS / NS (TC80-EIP)
External I/O section	Output signal (2)	Selectable/configurable Transistor's open collector output Vceo = 30 V, Ic = 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	CCL: CC-Link interface (TC80-CCL)	485: RS-485 interface
	D3V: D/A converter voltage output (3 ch) (TC80-D3V)	USB: USB interface
	EIP: EtherNet/IP interface (TC80-EIP)	
Genera performance	Power supply voltage	DC 24 V±15%
	Power consumption	6 W typ. (TC80-CCL, TC80-D3V), 7 W typ. (TC80-EIP)
	Operating conditions	Operation temperature: -10 to +50°C Storage temperature: -20 to +85°C Humidity: 85% RH or less (non-condensing)
	Dimension	34(W) × 88(H) × 91(D) mm (Not including projections)
	Weight	Approx. 230 g
Attachments	Quick manual	2
	CC-Link connector (TC80-CCL)	1
	Operating tool (TC80-D3V)	1
Optional accessories	Mini driver	1
	CC-Link connector (TC80-CCL)	1
	Ferrite core (TC80-CCL)	1
	Various I/O connector	2(TC80-CCL, TC80-EIP), 3(TC80-D3V)
	CATM321: Cable for UTM III connection 2 m	C81-USB: miniUSB-computer USB cable 1.8 m
	CATM351: Cable for UTM III connection 5 m	CN7A: Connector for D/A converter (3 ch)
	CATM312: Cable for UTM III connection 10 m	(Same as the attachment)
	CATM21: Cable for UTM II connection 2 m	CN74: CC-Link connector (Same as the attachment)
	CATM51: Cable for UTM II connection 5 m	CN75: CC-Link connector (Y type branch connector)
	CATM12: Cable for UTM II connection 10 m	CN76: CC-Link connector (Terminator connector)
CATM(R)321: Cable for connection UTM III rotary encoder 2 m	CN85: 13p connector for power source/sensor/RS-485	
CATM(R)351: Cable for connection UTM III rotary encoder 5 m	(Same as the attachment)	
CATM(R)21: Cable for connection UTM II rotary encoder 2 m	CN87: 10p connector for external I/O	
CATM(R)51: Cable for connection UTM II rotary encoder 5 m	(Same as the attachment)	
CATM(RC)321: Cable for UTM III (RC) connection 2 m	E04SR21132: Ferrite core	
CATM(RC)351: Cable for UTM III (RC) connection 5 m	TSU03: Lightning surge protector (DC)	
CE marking certification	EMC directives EN61326-1	

CC-Link EtherNet/IP CE RoHS2

Suitable torque meter UTM III UTM II UTMV UTF II

- High-speed sampling at 16000 times/sec.
- Equipped with display and comparison function for connection data\*1 of UTM III/UTF II
- Torque, rotation speed and torque-angle curve 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 UTM III is compatible with rotary encoder option(R)(H).  
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

① Standard unit

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

