

# TC80-CCL TC80-D3V

TORQUE CONVERTER  
FOR UTM III/UTM II



Suitable torque meter **UTM III** **UTM II** **UTMV** **UTF**

- High-speed sampling at 16kS/s!!
- Equipped with display connection data(\*1) of UTM III/UTF and comparison function.
- Display torque & rotation speed. Torque-angle curve also can be monitored.
- Equipped with data memory function (Store 100 latest torque data (hold value))
- 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 35mm DIN rail mount.



### Structure of product code

TC80-□ □  
① ②

① Standard unit

Sign	Interface
TC80-CCL	CC-Link, RS-485, USB
TC80-D3V	D/A converter voltage output (3ch), RS-485, USB

② Suitable torque meter

Sign	Specification
Standard	UTM III/UTM II/UTMV
UTF	UTF specification

Note ) If UTF is selected, UTM III/UTM II/UTMV cannot be connected.

Note) UTF specifications is RS-422A.

### Specifications

Analog section	Torque sensor input (voltage input)	
	Signal input range	-10 to +10V (UTM III/UTF (Option) ) Input resistance 1M or more -5 to +5V (UTM II/UTMV) Input resistance 1M or more
	Accuracy	Non-linearity : Within 0.02%/FS±1 digit Zero drift : Within 0.2mV/°C RTI Gain drift : Within 0.01%/°C · Speed...16000 times/sec. · Resolution...24bit (binary) Approx. 1/30000 with respect to 10V
	A/D converter	PASS, 3Hz to 1kHz (TC80-CCL)/PASS, 1Hz to 1kHz (TC80-D3V)
	Digital low pass filter	
	Voltage output Input voltage cuff (For test point) (UTF (option) )	
	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, 2 rpm (when pulse rate is 4 ppr)
	Minimum input frequency	Select from 60, 40, 20, 12, 8 rpm (when pulse rate is 1 ppr)
	Minimum detection pulse width	50µs
Circuit configuration	No-voltage contact input (minus common) Open collector connectable (Ic = Approx. 10mA)	
Rotation speed input for low speed (Pulse input, open collector) *Example of using UTM II rotary encoder option		
Maximum input frequency	Approx. 1000rpm	
Minimum input frequency	0.1rpm	
Minimum detection pulse width	5µs	
Circuit configuration	No-voltage contact input (minus common) Open collector connectable (Ic = Approx. 10mA)	
Pulse input for rotation speed (Line driver: RS-422A compliant/ UTF option)		
Maximum input frequency	Based on UTF	
Circuit configuration	Line driver (RS-422A compliant)	
Encoder input (Pulse input)		
UTM III/UTM II Compatible with rotary encoder option		
Display section	Display unit	Character height 8mm Numerical display by 7-segment green LED
	Display content	Switchable numeric display (torque, rotation speed, angle (TC80-CCL), power/angle (TC80-D3V))
	Display frequency	Selectable from 1, 3, 6, 13, 25 times/sec.
	Status display	RUN / SD / RD / ERR (TC80-CCL)
External I/O section	Output signal (2)	Selectable/ configurable Transistor's open collector output V <sub>ceo</sub> =30V, I <sub>c</sub> =50mA
	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	485: RS-485 interface
	CC: CC-Link interface (TC80-CCL)	422: RS-422A interface (UTF (Option))
	D3V: D/A converter voltage output (3ch) (TC80-D3V)	
Option	UTF: UTF-dedicated specification	
General performance	Power supply voltage	DC24V±15%
	Power consumption	6W typ.
	Operating conditions	Operation : -10 to +50°C Storage -40 to +80°C Humidity : 85%RH or less (non-condensing)
	Dimensions	34(W)×88(H)×91(D) mm (Projections excluded)
Weight	Approx. 230g	
Attachments	Quick manual	2
	CC-Link connector (TC80-CCL)	1
	Operating tool (TC80-D3V)	1
Mini driver	1	
Ferrite core (TC80-CCL)	1	
Various I/O connector	TC80-CCL : 2, TC80-D3V : 3	
Optional accessories	CATM321: Cable for UTM III connection 2m	CATF-OUT-5M: Analog output cable for UTF 5m
	CATM351: Cable for UTM III connection 5m	CATF-COM-5M: Communication cable for UTF 5m
	CATM312: Cable for UTM III connection 10m	CA81-USB: mini USB-computer USB cable 1.8m
	CATM21 : Cable for UTM II connection 2m	CN7A: Connector for D/A converter (3ch) (Same as attachment)
	CATM51 : Cable for UTM II connection 5m	CN74 : CC-Link connector (Same as attachment)
	CATM12 : Cable for UTM II connection 10m	CN75 : CC-Link connector (Y type branch connector)
	CATM(R)321 : Cable for connection UTM III rotary encoder 2m	CN76 : CC-Link connector (Terminator connector)
	CATM(R)351 : Cable for connection UTM III rotary encoder 5m	CN78 : 10p connector for external I/O (Same as attachment)
	CATM(R)21 : Cable for connection UTM II rotary encoder 2m	CN85 : 13p connector for power source/sensor/RS-485 (Same as attachment)
	CATM(R)51 : Cable for connection UTM II rotary encoder 5m	(Same as attachment)
TSU03: Lightning surge protector (DC)	E04SR21132 : Ferrite core	
CE marking certification	EMC directives EN61326-1	

### External dimension

