TM301

TORQUE MONITOR FOR UTMⅡ/UTMV



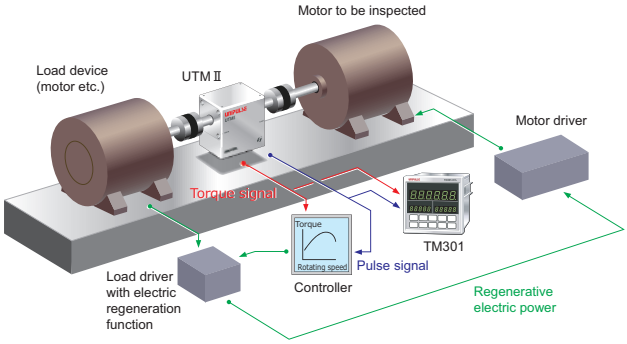
DIN 96 RoHS2

Suitable torque meter UTMⅡ UTMV

- Torque, rotational speed, and power* are displayed simultaneously.
- Upper/lower comparators with hold functions.
- Data storage function.
  (Record last 30 measurement data of torque, rotational speed, and power)
- The unit supplies electric power to UTMⅡ/UTMV.
- Easy connection to UTMⅡ/UTMV with the supplied cable.

* Power (W) = 2π × Torque (N m) × Rotation speed (rpm) / 60

■ Application example



Specifications

Input signals	- Torque sensor input (voltage input)	
	Signal input range	-5 to +5 V Input resistance...1 MΩ or more
	Accuracy	Non-linearity: Within 0.02% FS±1 digit Zero drift: Within 0.2 mV/℃ RTI Gain drift: Within 0.01%/℃
	A/D converter	Speed: 300 times/sec. Resolution: 24 bit (binary) Effective Resolution: 1/30000 against 5 V
	Analog filter	Low-pass filter (-6 dB/oct.) Selectable from 3 Hz, 30 Hz, 300 Hz, and 1 kHz.
	- Voltage monitor output	Linked to the output voltage of the torque meter
	- Pulse input for rotation speed (open collector input)	
	Maximum input rotation speed	Conforming to the maximum rotation speed of UTMⅡ/UTMV
	Minimum input rotation speed	Selectable from 15, 10, 5, 3, or 2 rpm (when pulse rate is 4 ppr)
	Minimum detection pulse width	50 μs
	Circuit configuration	No-voltage contact input (minus common) Open collector connectable (Ic = Approx. 10 mA)
Display	Display	Main display: Character height: 15 mm, Numerical display by 7-segment green LED (5-digit+sign) Sub display: Character height: 8 mm, Numerical display by 7-segment green LED (5-digit)
	Indicated value	Main display: 5-digit -99999 to +99999, Signs: Minus sign on most significant digit Sub display: 5-digit -19999 to +99999, Signs: Minus sign on most significant digit (No minus sign for rotational speed)
	Decimal point	0, 0.0, 0.00, 0.000 (Only a torque and a power. Rotation speed is nothing)
	Display frequency	Selectable from 3, 6, 13, and 25 times/sec.
	Status display	HI / LO / HOLD
Hold	Sample, Peak, Bottom, P-P, Average Hold section setting (All section・External signal・External signal+Time・Level+Time)	
External signal	External input (4 points)	Hold control / Hold reset / Digital Zero / Record data clear Dry contact input circuit (minus common type), Ic = 10 mA or less
	External output (12 points)	Torque HI/LO limit comparison (alarm HI・HI・OK・LO・alarm LO) / Rotation speed HI/LO limit comparison (alarm HI・HI・OK・LO・alarm LO) / Hold complete / RUN Open collector output circuit (sink type), Vceo = 30 V (max) Ic = 30 mA (max)
Interface	SIF: 2-wire serial interface BCO: BCD parallel data output interface (Option) D3V: D/A converter voltage output (3ch) (Option) DAV: D/A converter voltage output (Option) DAI: D/A converter current output (Option) 232: RS-232C communication interface (Option) USB: USB interface (Dedicated PC software can be downloaded) (Option) * Only one option can be installed.	
General performance	Power supply voltage	AC 100 to 240 V (+10% -15%) (Free power source 50/60 Hz)
	Power consumption	7 W typ.
	Operating conditions	Operation temperature: -10 to +40℃ Storage temperature: -40 to +80℃ Humidity: 85% RH or less (non-condensing)
	Dimension	96(W) × 96(H) × 138(D) mm (Not including projections)
	Weight	Approx. 1.0 kg
Attachments	Operation manual・・・・・・・・・・・・・・・・・・・・・・・・・・・・1 External input/output connector・・・・・・・・・・・・・・・・・1 Unit seal・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・1 Operating tool (with D/A converter (3 ch) option)・・・1 Mini screwdriver (with D/A converter option)・・・・・・1	Cable for UTMⅡ/UTMV connection 2 m・・・・・・・・・・・・1 AC input cord 3 m (with solderless terminal)*・・・・・・・・・1 Connector for BCD output (with BCD output option)・・・1 * The attached AC input cord is intended for 100 V AC power in Japan.
Optional accessories	CA372-I/O: Cable with FCN connector at one-end 3 m CAAC2P-B3: AC input cord 3 m (Same as the attachment) CAAC3P-B3: AC input cord 3 m CA325AC3P-B3: AC input cord 3 m CATM21-M: Cable for UTMⅡ/UTMV connection 2 m (Same as the attachment) CN34: D-Sub9p connector for RS-232C CN51: BCD output connector CN73: D/A converter (3 ch) connector DTC2-PSL: Case for TM301	CA81-USB: USB cable (TypeA-Bmini) 1.8 m CAAC3P-CEE7/7-B2: AC input cord (Voltage resistance: 250 V) 2 m CA325AC3P-CEE7/7-B2: AC input cord (Voltage resistance: 250 V) 2 m CATM51-M: Cable for UTMⅡ/UTMV connection 5 m CN50: FCN series I/O connector (with cover) (Same as the attachment) CN55: FCN series I/O connector (with diagonal cover) CN90: Waterproof plastic connector for UTMⅡ/UTMV connection GMP96x96: Rubber packing

* Please note that there are possibilities of individual differences in a color tone on display devices such as LEDs, fluorescent display tubes and LCDs due to manufacturing process or production lots.

Structure of product code

TM301 □
① ②

① Standard unit

② Interface

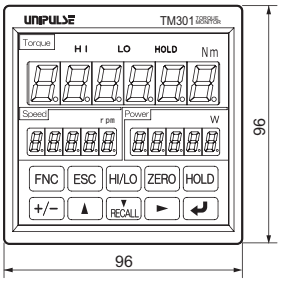
Sign	Interface
Standard	SI/F

↓ One optional interface can be added in addition to the standard interface.

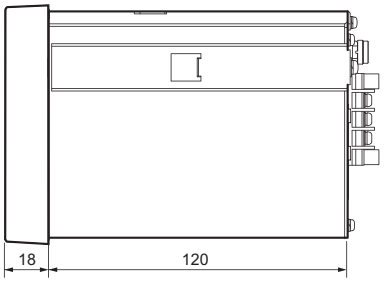
BCO	BCD output (Sink type)
D3V	D/A converter (Voltage output) (3 ch)
DAV	D/A converter (Voltage output)
DAI	D/A converter (Current output)
232	RS-232C
USB	USB

External dimension

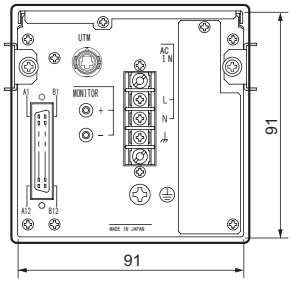
(Front)

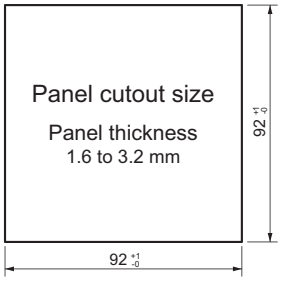


(Side)

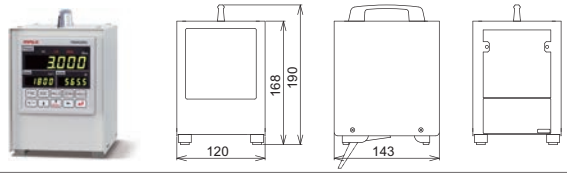


(Rear)





DTC2-PSL: Case for TM301



Unit: mm