

TM301

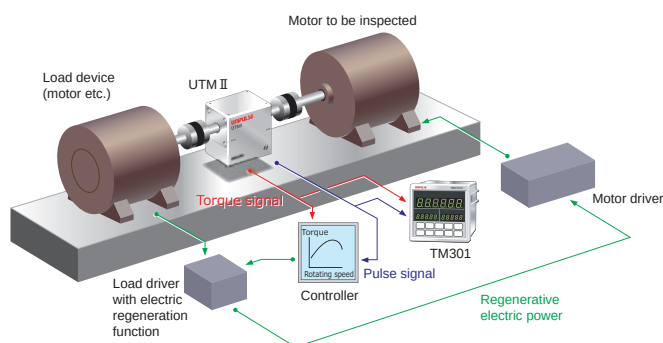
TORQUE MONITOR FOR UTM II/UTMV



- 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 UTM II /UTMV.
- Easy connection to UTM II /UTMV with the supplied cable.
- RoHS-compliant product

* Power (W) = $2\pi \times \text{Torque (Nm)} \times \text{Rotation speed (rpm)} / 60$

Application example



Specifications

Analog	Torque sensor input (voltage input)	
	Signal input range	-5 to +5V Input resistance 1MΩ
	Accuracy	Non-linearity: Within 0.02%/FS±1digit Zero drift: Within 0.2mV/°C RTI Gain drift: Within 0.01%/°C
	A/D converter	Speed...300 times/sec. Resolution...24bit(binary) Approx. 1/30000 with respect to 5V
	Analog filter	Low-pass filter (-6dB/oct) Selectable from 3, 30, 300, and 1kHz.
	Analog monitor output: input voltage return (for tester)	
	Pulse input for rotation speed (open collector input)	
	Max. frequency	Accordance with UTM II/UTMV
	Min. frequency	Select from 15, 10, 5, 3, or 2 rpm (when pulse rate is 4 ppr) 60, 40, 20, 12, 8 rpm (when pulse rate is 1 ppr)
	Minimum detection pulse width 50μs	
Display	Circuit configuration No-voltage contact input (minus common) Open collector connectable(Ic=Approx. 10mA)	
	Display	Main display : Character height 15mm Numerical display by 7-segment green LED (5-digit+sign) Sub display : Character height 8mm 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.
Hold	Status display	HI/LO/HOLD
	Sample, Peak, Valley, P-P, Average Hold section setting (All section · External signal · External signal +Time · Level +Time)	
External input/output	External input (4)	Hold control/Hold reset/Digital Zero/Record data clear Dry contact input circuit (minus common type), Ic=10mA or less
	External output (12)	HI/LO limit comparison (alarm HI · HI · OK · LO · alarm LO) /Hold complete/RUN Open collector output circuit (sink type), Vceo=30V (max) Ic=30mA (max)
Interface	SIF:	2-wire serial interface
	BCO:	BCD parallel data output interface (Option)
	232:	RS-232C communication interface (Option)
	D3V:	D/A converter voltage output (3ch) (Option)
	DAV:	D/A converter voltage output (Option)
	DAI:	D/A converter current output (Option)
General performance	USB:	USB interface (Option) * Only one option can be installed.
	Power supply voltage	AC100V to 240V(+10%-15%)(free power source) 50/60Hz
	Power consumption	7W typ
	Operating conditions	Operation:-10 to +40°C Storage:-40 to +80°C Humidity:85%RH or less(non-condensing)
	Dimension	96(W)×96(H)×138(D) mm(Projections excluded)
	Weight	Approx.1.0kg
Attachments	Operation manual×1, Cable for UTM II/UTMV connection 2m×1, External input/output connector×1, Unit seal×1, AC input cord 3m (with solderless terminal) *×1, Connector for BCD output (with BCD output option) ×1, Operating tool (with D/A converter(3ch) option) ×1, Mini screwdriver (with D/A converter option) ×1 *The attached AC input cord is intended for 100V AC power in Japan.	
Accessories	CA372-I/O: Cable with FCN connector at one-end 3m CAAC2P-B3-AC Supply cord 3m CATM21-M: Cable for UTM II/UTMV connection 2m CN34-D: Sub9p connector for RS-232C CN51: BCD output connector CN73: D/A converter(3ch) connector DTC2-PSL: Case for TM301	
	CA81-USB: 1.8m miniUSB-computer USB cable CAAC3P-CEE77-B2-AC Supply cord (Voltage resistance: 250V) 2m CATM51-M: Cable for UTM II/UTMV connection 5m CN50: FCN series I/O connector (with cover) CN55: FCN series I/O connector (with diagonal cover) CN90: Waterproof plastic connector for UTM II/UTMV connection GMP96×96: Rubber packing	

Structure of product code

TM301 □

① ②

① Standard unit

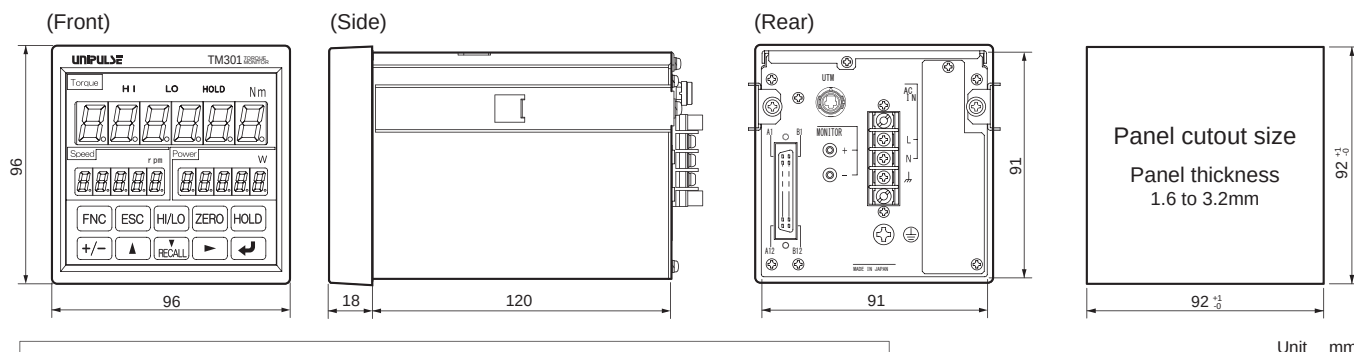
② Interface

Sign	Interface
Standard	SI/F

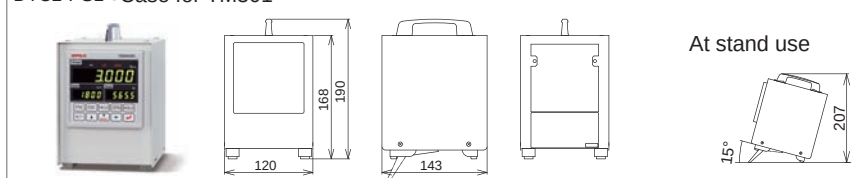
↓ One optional interface can be added in addition the standard interface.

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

External dimension



DTC2-PSL : Case for TM301



At stand use