



### Suitable torque meter UTM III UTM II

\* Supporting only rotary encoder option

Convert real-time angle & rotation speed from rotary encoder of torque meter into output voltage. You can use multi-channel oscilloscope to monitor torque vs angle, torque vs rotation speed in real-time.

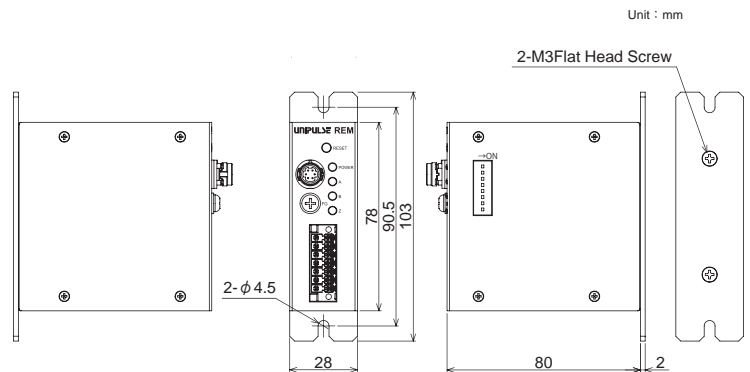
It is also suitable for feedback control using voltage output.

- Angle & rotation speed from rotary encoder can be monitored simultaneously at voltage -10 to +10V.
- You can decide starting point using Z phase signal (UTM II only) or external pulse signal

### Specifications

Angle signal	-10 to +10V
Rotation speed signal	-10 to +10V
Resolution of voltage output	1/50000 against ±10V
Non-linearity of voltage output	0.01%/FS
Responsivity of voltage output	DC to 5kHz/-3dB
Compensated temperature range	-10 to +50°C
Temperature effect on span	0.005%/FS/°C
Humidity	85%RH or less (non-condensing)
Power supply voltage	DC24V±15%
Consumption current	0.04A or less
Dimensions	28(W)×78(H)×80(D) mm(Projections excluded)
Weight	Approx.120g
Attachments	Operation manual
Accessories	CATM(R)21-M: Cable for connection UTM II rotary encoder 2m CATM(R)51-M: Cable for connection UTM II rotary encoder 5m CATM(R)321-MR: Cable for connection UTM III rotary encoder 5m CATM(R)351-MR: Cable for connection UTM III rotary encoder 5m CN91: Waterproof plastic connector for UTMII rotary encoder

### External dimension



### REM output

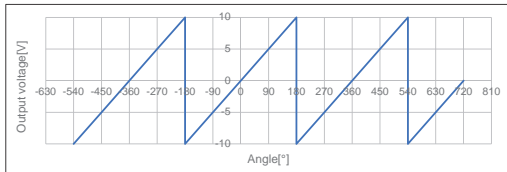
\* Mode can be changed by DIP switch

#### ■ Angle output

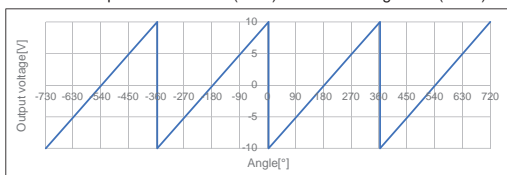
	Mode1 (*1)	Mode2 (*2)	Mode3 (*1)
Angle	-180 to +180°	-90 to +90°	0 to +360°

\*1. Mode1, Mode3 : Useful to monitor when the axis rotates in a fixed direction

Mode1 : Output switches to -180°(-10V) after exceeding +180°(+10V).

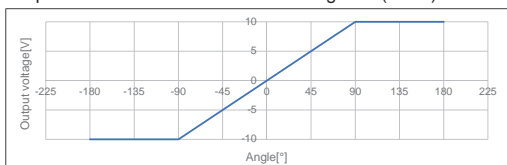


Mode3 : Output switches to 0°(-10V) after exceeding +360°(+10V).



\*2. Mode2 : Useful to monitor detailed vibration of the axis

Output remains at +10V after exceeding +90°(+10V).



#### ■ Output of rotation speed (\*3) (\*4)

	Mode 1	Mode 2	Mode 3	Mode 4
Speed UTM III / UTM II (WR)	-4000 to +4000 rpm	-2000 to +2000 rpm	-1000 to +1000 rpm	-500 to +500 rpm
Speed UTM II (0.05 to 10N)	-4500 to +4500 rpm	-2000 to +2000 rpm	-1000 to +1000 rpm	-500 to +500 rpm
Speed UTM II (20, 50N)	-2000 to +2000 rpm	-1000 to +1000 rpm	-500 to +500 rpm	-250 to +250 rpm

\*3. Able to measure from 1rpm onwards.

\*4. If there is no pulse input after 0.1 seconds, output will return to starting point (0V).

### Pin assignment

Connector (Connect to encoder option of UTM III & UTM II)

Description	Pin No.	Signal
Not connected	1	NC
Power supply	2	PWR(+5V)
Rotary encoder	3	Z phase(UTM II only)
	4	B phase
	5	A phase
Power supply & rotary encoder	6	GND

Able to supply power to encoder option of UTM III/UTM II

Terminal block (Connect to external devices)

Description	Pin No.	Signal
External input	1	DIGITAL ZERO +
	2	DIGITAL ZERO -
Not connected	3	
	4	NC
Rotation angle output	5	ANALOG OUT 1
	6	ANALOG GND 1
Rotation speed output	7	ANALOG OUT 2
	8	ANALOG GND 2
Not connected	9	
	10	
	11	NC
	12	
Power supply	13	PWR (+24V)
	14	PWR (0V)