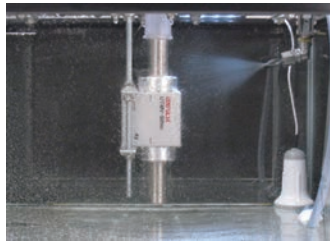


UTMV

DRIP & RUST PROOF ROTATING TORQUE METER



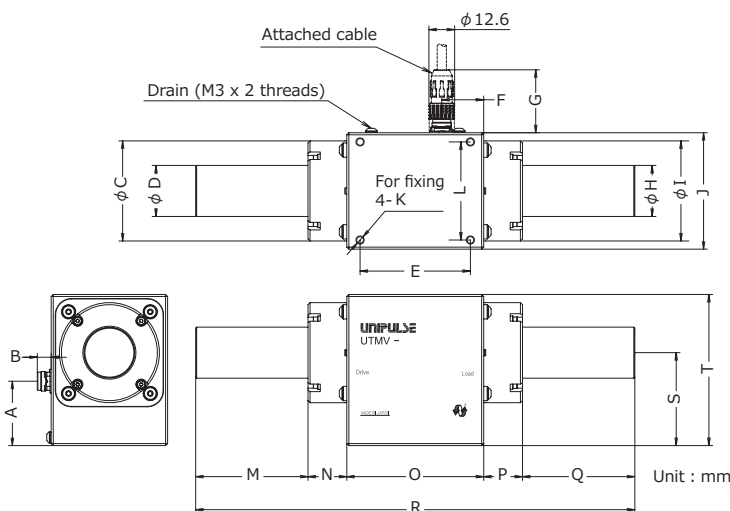
- Degree of protection: equivalent to IP65
- Made of rust-resistant stainless steel
- Labyrinth seal (standard)
With the protection against rain and seawater, it can be used outside for wind and water turbine and so on.
- PTFE rotary seal: option (S)
It can be used in environment with dust and/or oil mist as well.
- Key groove : option (K)

Drip-proof type with high safe overload rating for use in harsh conditions

■ Specification (ST:Standard, (S):PTFE rotary seal option)

Measurement range	±0.1Nm		±0.5Nm		±1Nm		±5Nm		±10Nm		±50Nm		±100Nm		±500Nm		±1000Nm		±5000Nm	
Seal structure	ST	(S)	ST	(S)	ST	(S)	ST	(S)	ST	(S)	ST	(S)	ST	(S)	ST	(S)	ST	(S)	ST	(S)
Power supply	DC24V ±15%																			
Consumption current	100mA or less										150mA or less					160mA or less				
Output range	±5V DC Load resistance must be more than 2kΩ																			
Bandwidth	1kHz																			
Rotation signal	4 pulses per 1 rotation Open collector Max. ratings 30V, 10mA																			
Safe overload	500% FS																			
Non-linearity	0.03% FS (Typ)																			
Hysteresis	0.03% FS (Typ)																			
Repeatability	0.03% FS (Typ)																			
Operation temp. range	-10 to +50°C																			
Temp. effect on zero	0.01%FS/°C (Typ)																			
Temp. effect on span	0.01%FS/°C (Typ)																			
Max. rotation speed (rpm)	10000	2120	10000	1590	10000	1590	9000	1060	9000	1060	5700	680	4800	570	4800	380	4800	270	4000	180
Torsional spring constant (Nm/rad)	11.13		89.5		172		897		1400		6887		16.4×10 ³		93.6×10 ³		326×10 ³		1418×10 ³	
Maximum torsional angle (rad)	8.99×10 ⁻³ (0.515°)		5.59×10 ⁻³ (0.320°)		5.83×10 ⁻³ (0.334°)		5.58×10 ⁻³ (0.320°)		7.14×10 ⁻³ (0.409°)		7.26×10 ⁻³ (0.416°)		6.11×10 ⁻³ (0.350°)		5.34×10 ⁻³ (0.306°)		3.07×10 ⁻³ (0.176°)		3.53×10 ⁻³ (0.202°)	
Inertia moment (kgm ²)	1.15 × 10 ⁻⁶	0.99 × 10 ⁻⁶	2.19 × 10 ⁻⁶	1.90 × 10 ⁻⁶	2.22 × 10 ⁻⁶	1.93 × 10 ⁻⁶	5.60 × 10 ⁻⁶	4.90 × 10 ⁻⁶	5.70 × 10 ⁻⁶	5.00 × 10 ⁻⁶	4.21 × 10 ⁻⁵	3.86 × 10 ⁻⁵	9.6 × 10 ⁻⁵	10.9 × 10 ⁻⁵	6.2 × 10 ⁻⁴	6.1 × 10 ⁻⁴	3.56 × 10 ⁻³	3.51 × 10 ⁻³	2.38 × 10 ⁻²	2.34 × 10 ⁻²
Approx. weight	390g		430g		430g		580g		580g		1.6kg		2.1kg		4.0kg		10.5kg		28.3kg	
Attached cable	6 wires (End points: Peeled insulator and soldered)																			
Accessories	CATM51 : 5m CATM12 : 10m																			
CE marking certification	EMC directives EN61326-2-3																			

Dimension



Type	Type
UTMV- 0.1Nm	UTMV- 100Nm
UTMV- 0.1Nm(S)	UTMV- 100Nm(K)
UTMV- 0.5Nm	UTMV- 100Nm(S)
UTMV- 0.5Nm(S)	UTMV- 100Nm(SK)
UTMV- 1Nm	UTMV- 500Nm
UTMV- 1Nm(S)	UTMV- 500Nm(K)
UTMV- 5Nm	UTMV- 500Nm(S)
UTMV- 5Nm(K)	UTMV- 500Nm(SK)
UTMV- 5Nm(S)	UTMV- 1000Nm
UTMV- 5Nm(SK)	UTMV- 1000Nm(K)
UTMV- 10Nm	UTMV- 1000Nm(S)
UTMV- 10Nm(K)	UTMV- 1000Nm(SK)
UTMV- 10Nm(S)	UTMV- 5000Nm
UTMV- 10Nm(SK)	UTMV- 5000Nm(K)
UTMV- 50Nm	UTMV- 5000Nm(S)
UTMV- 50Nm(K)	UTMV- 5000Nm(SK)
UTMV- 50Nm(S)	
UTMV- 50Nm(SK)	

Measurement range	A	B	φ C	φ D	E	F	G	φ H	φ I	J	K	L	M	N	O	P	Q	R	S	T	Key groove
0.1	25	8.3	24	5h7	45	18	32.3	5h7	24	40	M3 Depth 6	32	10	11.5	54	11.5	10	97	33	50	-
0.5	25	8.3	26	8h7	45	18	32.3	8h7	26	40	M3 Depth 6	32	15	11.5	54	11.5	15	107	33	50	-
1	25	8.3	26	8h7	45	18	32.3	8h7	26	40	M3 Depth 6	32	15	11.5	54	11.5	15	107	33	50	-
5	25	8.3	30.5	12h7	45	19.5	32.3	12h7	30.5	40	M3 Depth 6	34	20	12	57	12	20	121	35.5	55	Refer to Page 8
10	25	8.3	30.5	12h7	45	19.5	32.3	12h7	30.5	40	M3 Depth 6	34	20	12	57	12	20	121	35.5	55	
50	31.5	6.8	43.4	20h7	58	20.5	30.8	20h7	43.4	51	M3 Depth 6	43	50	18.5	70	18.5	50	207	42.5	68	
100	31.5	6.8	49	25h7	54	20.5	30.8	25h7	49	57	M4 Depth 8	48	55	19	67	19	55	215	45.5	74	
500	21.5	6.8	64.2	40h7	52	20.5	30.8	40h7	64.2	72	M4 Depth 8	64	75	20	67	20	75	257	43	79	
1000	25	5.3	86.6	60h7	66	28.5	29.3	60h7	86.6	98	M5 Depth 10	86	100	20	86	20	100	326	54	103	
5000	25	4.8	124.6	90h7	72	28.5	28.8	90h7	124.6	137	M6 Depth 12	124	145	23	97	23	145	433	72.5	141	

* Dimension of rotary seal type is same as standard type.