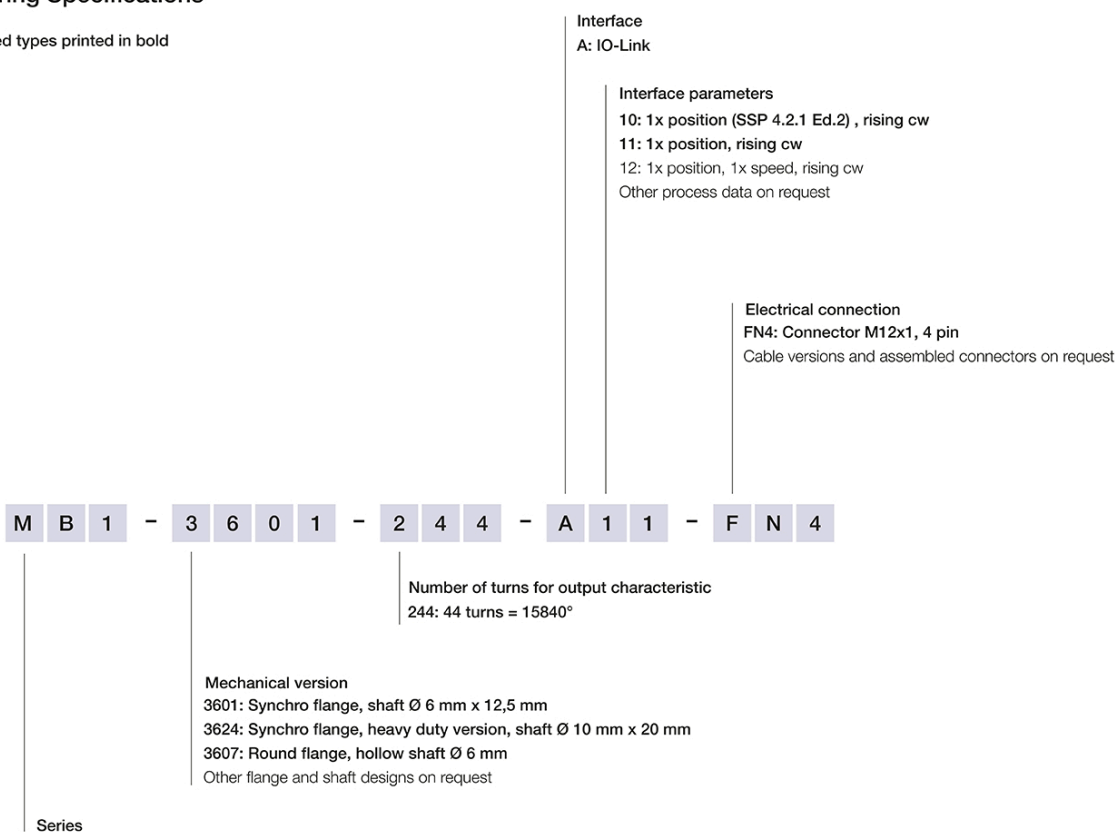


Ordering Specifications

Ordering Specifications

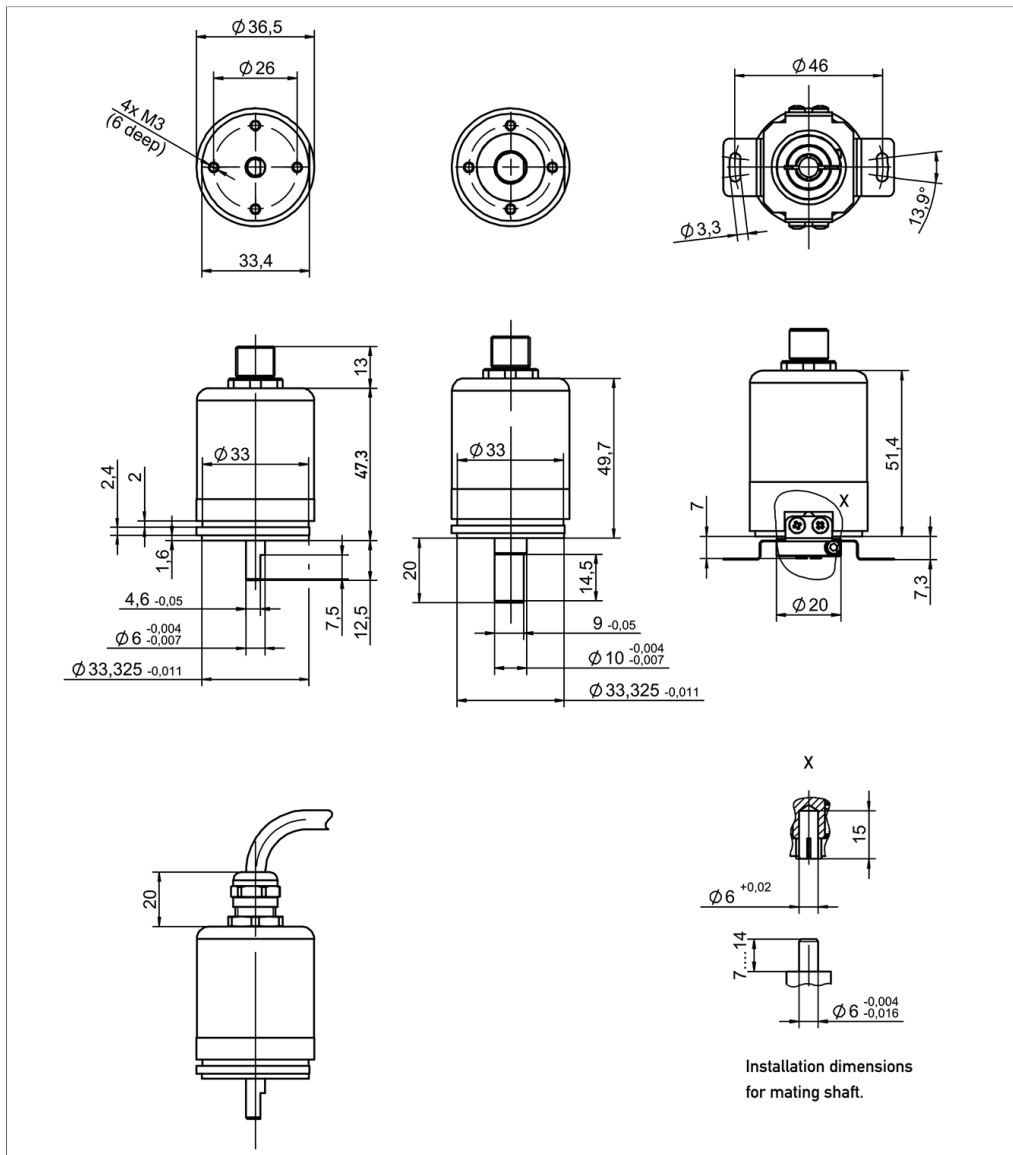
Preferred types printed in bold



Accessories included in delivery

3x fixing clamp Z1-15

Drawing



CAD data see
www.novotechnik.de/en/download/cad-data/



When the marking of the shaft is pointing towards the flattening on the housing flange, the sensor output is located on an integer turn position.

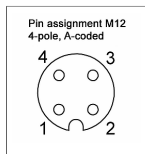
Type	MB1-36-_-_-_-A-_-_-_- IO-Link		
Measured variables	Position, speed, temperature and supply voltage		
Measuring range	44 turns = 15840°		
Measuring range speed	0 ... 546 rpm		
Number of channels	1		
Protocol	IO-Link Spec V1.1 to IEC 61131-9, Smart Sensor Profile Ed. 2 Digital Measuring Sensor SSP 4.2.1 (V1.0 compatible)		
Programmable parameters	e.g. Null point offset, resolution, rotating direction, switches, work area, operating modes		
Condition monitoring functions	Statistical data on temperature, operating time, supply voltage, running performance		
Start-up time	≤ 120 ms		
Diagnosis	activated (in case of error, position signal is outside of the plausible signal range)		
Resolution position (across 360°)	A11/A12: 16 bits, A10: 0,01°/LSB		
Resolution speed	0.1°/s		
Update rate	1 kHz		
Signal propagation delay	< 0.2 ms		
Transfer rate	COM 3 (230.4 kBaud)		
Frame type	2.2		
Minimum cycle time	1 ms		
Linearity	≤ ±1°		
Repeatability	≤ ±0.1°		
Hysteresis	≤ ±0.5°		
Temperature error	±0.36°		
Supply voltage Ub	24 VDC (16 ... 30 VDC)		
Current consumption w/o load	≤ 30 mA @24 V		
Power drain w/o load	< 0.72 W		
Polarity protection	yes (supply lines and outputs)		
Short circuit protection	yes (output vs. GND and supply voltage up to 40 VDC)		
Overvoltage protection	36 VDC (permanent)		
Insulation resistance (500 VDC)	≥ 10 MΩ		
Environmental Data			
Type	Ø6 mm shaft MB1-3601-_-_-_-_-_-_-_-_-_-	Ø10 mm shaft Heavy Duty MB1-3624-_-_-_-_-_-_-_-_-_-	Ø6 mm hollow shaft MB1-3607-_-_-_-_-_-_-_-_-_-
Max. operational speed	12,000 rpm	6,000 rpm	12,000 rpm
Vibration IEC 60068-2-6	20 g, 5 ... 2000 Hz, Amax = 0.75 mm		
Shock IEC 60068-2-27	50 g, 6 ms		
Protection class ISO 20653	IP65 (shaft side) IP67 (housing incl. electronics)	IP67 (shaft side) IP69K (housing incl. electronics)	IP65 (shaft side) IP67 (housing incl. electronics)
Operating temperature	-30 ... +85°C		
Insensitivity to magnetic DC fields	< 15 mT		
Bearing lifetime	typ. > 100 Mio. movements		
Functional safety	If you need assistance in using our products in safety-related systems, please contact us		
MTTF (IEC 60050)	591 years		
Traceability	Serial number on type labeling: production batch of the sensor assembly and relevant sensor components		
Conformity/Approval	CE, UKCA see https://www.novotechnik.de/en/downloads/certificates/declarations-of-conformity-eu/uk WEEE see https://www.novotechnik.de/en/downloads/certificates/eu-directive-weee/		
EMC Compatibility			
IO-Link Interface and System	V1.1.3		
EN 61000-4-2 ESD (contact/air discharge)	4 kV, 8 kV		
EN 61000-4-3 Electromagnetic fields (RFI)	10 V/m		
EN 61000-4-4 Fast transients (burst)	2 kV		
EN 61000-4-6 Cond. disturbances (HF fields)	10 V eff.		
EN 55016-2-3 Radiated disturbances	Industrial and residential area		

Important:

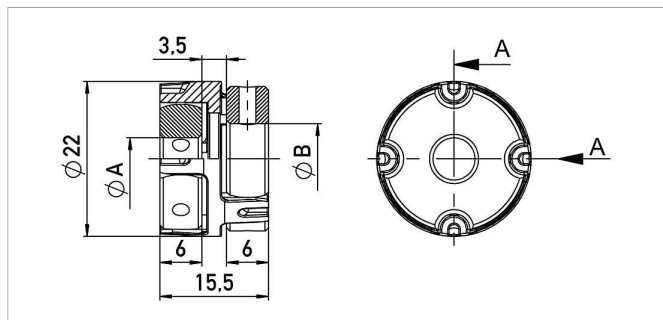
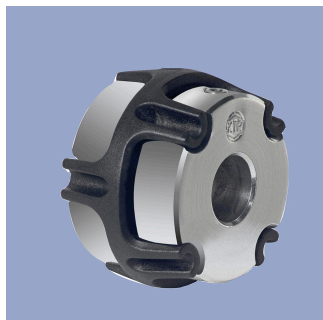
While operation, care should be taken not to rotate the sensor shaft below 0° or above 5760°. Refer to users manual.

Connection Assignment

Signal	Connector
Supply voltage Ub (L+)	Pin 1
GND (L-)	Pin 3
C/Q	Pin 4
Do not connect (alt. GND)	Pin 2



Sensor Mounting

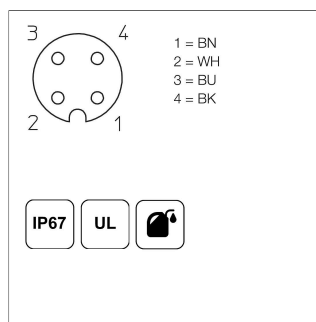
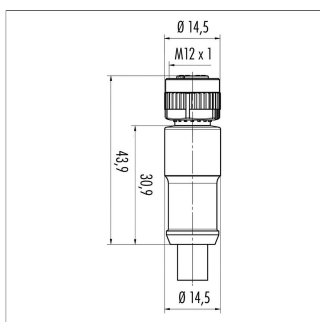


Z-106-G_
Backlash-free, double cardanic shaft coupling for $\varnothing 6$ mm to $\varnothing 6$ mm, $\varnothing 6.35$ mm or $\varnothing 10$ mm, mounting via 2 threaded pins with internal hexagon

Material Aluminium, PEEK
 Operating temp. $-40 \dots +160^\circ\text{C}$
 Transferable torque ≤ 1 Nm
 Displacement rad. ≤ 0.1 mm, angl. $\leq 0.45^\circ$

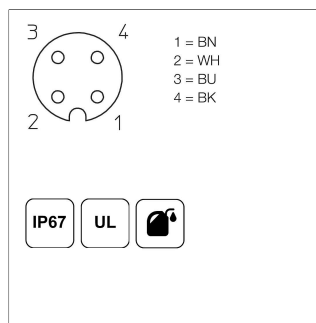
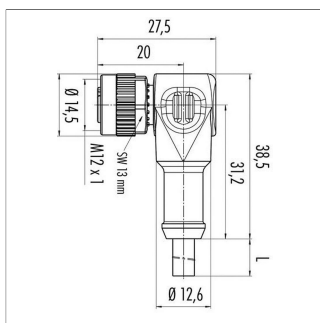
P/N	Type	$\varnothing A / \varnothing B$ [mm]
400103910	Z-106-G-6	6 / 6
400103912	Z-106-G-6,35	6 / 6.35
400103913	Z-106-G-10	6 / 10

Connector System M12



EEM-33-35/36/37
M12x1 Mating female connector, 4-pin, straight, A-coded, with molded cable, not shielded, IP67, open ended
Plug housing PA
Cable sheath PUR, Ø = max. 6 mm, -40 ... +85°C (fixed)
Lead wires PP, 0,34 mm²

P/N	Type	Length
400056135	EEM-33-35	2 m
400056136	EEM-33-36	5 m
400056137	EEM-33-37	10 m



EEM-33-38/39/40
M12x1 Mating female connector, 4-pin, angled, A-coded, with molded cable, not shielded, IP67, open ended
Plug housing PA
Cable sheath PUR, Ø = max. 6 mm, -40 ... +85°C (fixed)
Lead wires PP, 0,34 mm²

P/N	Type	Length
400056138	EEM-33-38	2 m
400056139	EEM-33-39	5 m
400056140	EEM-33-40	10 m

IP67 Protection class IP67 DIN EN 60529

IP68 Protection class IP68 DIN EN 60529

Very good Electromagnetic Compatibility (EMC) and shield systems

Very good resistance to oils, coolants and lubricants

C Suited for applications in dragchains

UL UL - approved

CAN-Bus

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