Dimensions

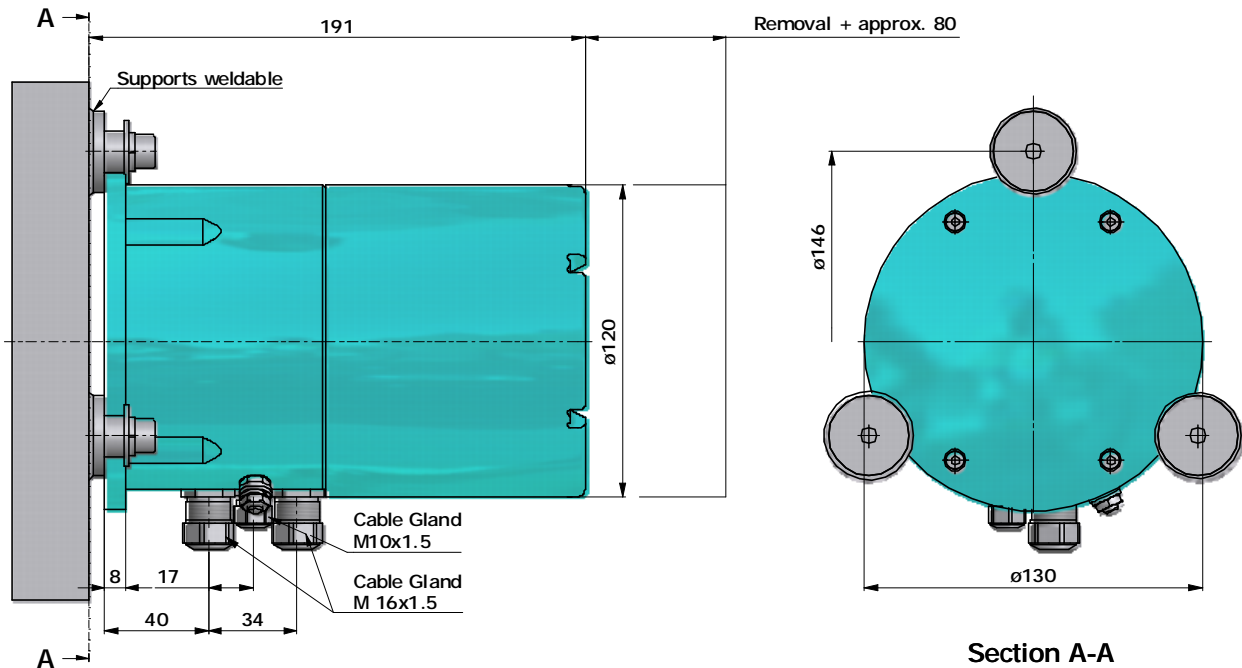Section A-A

Dimensions in mm

Application

The absolute measuring angle transmitter MGASP serves the direct acquisition of positioning units and other elements such as gates, flaps, valves, drawbridges, sluice gates, etc. which have horizontal axis. This clamp-on unit is made of a compact, robust and maintenance-free construction. The extremely simple mounting by weldable split taper sockets directly onto the moving object enables a wide range of applications.

Short description

A gravity-actuated pendulum with electro-dynamic damping transmits the movement to be measured to a primary sensor. This optical sensor converts the movement into a digital electrical signal.

Signal processing within the primary sensor takes place with the aid of a temperature insensitive IR-opto-receiver-ASIC with integrated signal conditioning.

The unit can be parameterised via the Profibus connection by means of appropriate Software. For parameterisation of MGASP you need a so-called GSD-file; see chapter accessories.

Being parameterised are direction of rotation (complement), resolution per rotation, total resolution, preset value, output of velocity, time base for velocity, software limit switches.

The supply connections and signal outputs are protected against reverse and over voltage.

The RIVERT PB can also be equipped with optional heating (MGZH).

Technical data

Type		MGASP
Measuring range (FS)	[°] [rotations]	-180...+180 1
Resolution	[Bit] [°]	13 0.044
Accuracy of division	[LSB]	+/- 2

Notice:
The encoder MGASP is mechanically completely rotatable. Placed in centre position, the cable gland is located exactly perpendicular below the unit (see dimensions figure).

Measuring range independent technical data

Electrical interface

- Physically   Line-Driver according to RS 485, galv. Isolated by opto-couplers
- Baud rates   12 MBaud; 6 MBaud; 3 MBaud; 1.5 MBaud; 500 kBaud;
                                187.5 kBaud; 93.75 kBaud ; 45.45 kBaud; 19.2 kBaud; 9.6 kBaud
- Device addressing   Adjustable by rotary switches in the unit

Environmental conditions

- Operating temperature range   -25...+60°C   (without Heating)
                                -40...+60°C   (with Heating MGZH
- Protection class   IP67 (optional IP68 / 35 m immersion depth)
- Standard cable connection   M10x1.5 for supply, clamping range 4...6 mm
                                M16 x1.5 for data, clamping range 6...8 mm
- Installation position   horizontal, cable gland downwards
- Housing material   AlSi1MgMn, AlMg4.5Mn
- Housing colour   blue/green (NCS-S-2555- BG60G)
- Kind of Coating   Powder coating, total layer thickness approx. 80 μm
- Weight   approx. 3.0 kg
- Vibration (EN 60068-2-6)   ≤ 10 g (10 Hz … 2000 Hz)
- Shock (EN 60068-2-27)   ≤ 100 g (half sine, 6 ms)
- Permanent shock (EN 60028-2-29) ≤ 10 g (half sine, 16 ms)

Power consumption

- Supply voltage range   DC 10...30 V (absolute limits)
- Power consumption   ≤ 2.5 W (without Heating MGZH)
- Power consumption heating   approx. 19.2 W (Supply range: DC 24 V ±10 %),
                                heating is controlled thermostatically

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Quality tests

CE Conformity in agreement with the EC EMC guidelines (89/336/EWG).

The unit fulfils the requirements for the CE marking in accordance with:
- Emitted interference EN 61000-6-4
- Noise immunity EN 61000-6-2

Parameterisation

The encoder with Profibus interface can be configured and parameterised according to the needs of the user. To do this you have to load the so-called GSD-file into the project planning tool. During project engineering different encoder classes are available. Adjustable parameters and functionality of the unit depend on the selected encoder class.

Encoder profiles

Main function: Transmission of actual process value (angle) in binary code.

Specified by the PROFIBUS User Organisation:

- Class 1:   Not being parameterised (besides direction of rotation)

- Class 2:   Being parameterised:
    - Direction of rotation
    - Gear coefficient
    - Scaling (resolution / rotation)
    - Preset value

Specified by Rittmeyer for expanded functionality

- Type 1:   - Online parameterisation (teach-in)
    - Software Limit Switch

- Type 2:   - Like Type 1
    - Additionally: Speed

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Electrical connections

Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø
B	A	-	+	B	A	-	+

Terminal: **Description:**
B (left) Bus line B (Bus in)
A (left) Bus line A (Bus in)
- 0 V
+ 10 – 30 V
B (right) Bus line B (Bus out)
A (right) Bus line A (Bus out)
- 0 V
+ 10 – 30 V

The power supply has to be connected once (no matter which terminal).
The outgoing bus lines are disconnected when the terminating resistor is switched on.

Unit dehumidification

A dehumidifying bag with indicator is used for dehumidifying the inside of the unit.
Depending on application conditions, the dehumidifier should be checked at least yearly and renewed as necessary.
A spare dehumidifying bag is delivered with the unit.

Supplied accessories

For mounting: 3 pieces weldable split taper sockets with cylindrical screws M8x16, flat washers and spring washers for mounting as well as a welding device.

Accessories

	Type	Ordering No.
• Protection class IP68, incl. assembly of connection cable	MGZIP68	P. MGZIP68
• Heating for MGASP, DC 24V / 19.2 W	MGZH	00 65 978.001
• Supply cable 3 x 0.5 mm^2 (WILBAFLEX PUR orange)	-	04 60 703
• Profibus cable 2-wire, shielded	-	04 64 990
• Profibus plug, L2Bus / PG-B (for connection to Master)	-	15 00 202
• GSD-file inclusive documentation to MGxxP	MGZGSD	00 65 968.001
• Dehumidifier (2 bags, boxed)	ZWE.BEUT	00 29 201.003
• Silicone grease, tube at 60 g (for O-rings)	-	60 01 223

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