

ROBOT

Description

Resolver Housing

Valid for Art. no. 00-138-219

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We have checked the content of this documentation for conformity with the hardware and software described. Nevertheless, discrepancies cannot be precluded, for which reason we are not able to guarantee total conformity. The information in this documentation is checked on a regular basis, however, and necessary corrections will be incorporated in subsequent editions.
Subject to technical alterations without an effect on the function.

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Valid for Resolver module

1 Description

The resolver module is an angle position encoder which is used for measuring or controlling drives. The resolver is mechanically driven and it converts the angle position into an electric signal. While the robot performs a revolution, the angle position encoder sends an alternating voltage whose phase angle turns from 0° to 360°. The phase angle of the output voltage of the robot in relation to the exciter voltage is a measure of the angular position of the robot.

The output signal of the resolver can be used directly on the display with a suitable device. It can also be amplified and sent to a controller in digitalized form.

The module consists in its essential components of the housing (Fig. 1/3), the resolver, the bearings and the shaft (5). The shaft and rotor of the resolver are bonded together. The housing (3) and shaft are shaped such that any combination of several resolver modules in sequence is possible. For this purpose the shaft is equipped with inner and outer involute toothing (5). The module is closed at the back by a cover (1).

For the drive with smooth shaft a bushing (optional) is available as an intermediate piece.

The electrical connection is made using a 12-pole connector (2).

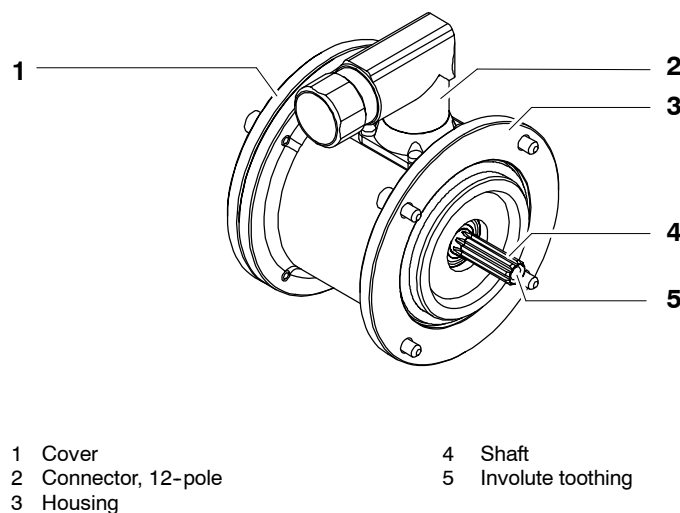


Fig. 1 Resolver module

▪ Note on installation

When installing the resolver module, the involute toothing on the input side and output side must be cleaned and a thin but continuous coat of Microlube GL 261 applied. Resolver modules may only be installed if their toothing is undamaged.

The resolver module must not be tilted while it is being installed.

2 Technical data

2.1 Mechanical data

KUKA Art. no.	00-138-219
Protection rating	IP64 on the connection flange IP65 resolver housing
Weight	0.5 kg
Drag torque	0.0500 Nm
Limit speed_{mech}	4,000 min ⁻¹
Maintenance interval	maintenance free
Lubricant for involute toothing	Microlube GL 261 KUKA Art. no. 83-087-280
Bushing (optional)	18 _{g6} x20; KUKA Art. no. 00-138-222

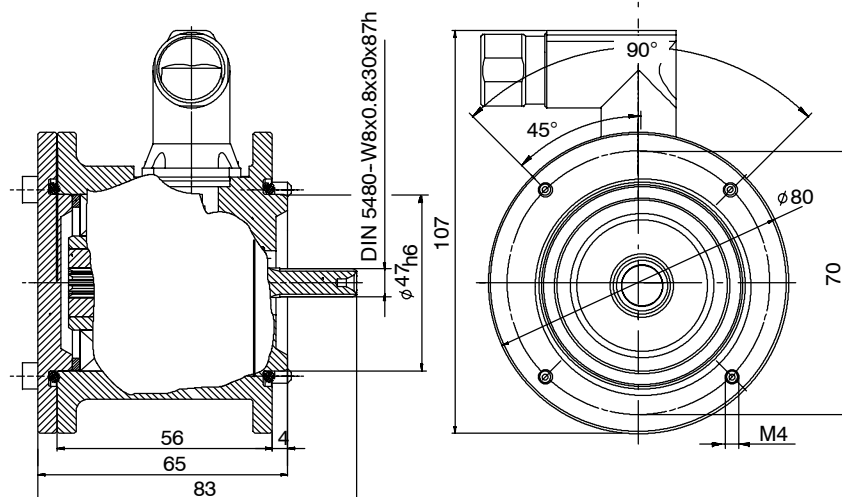


Fig. 2 Principal dimensions

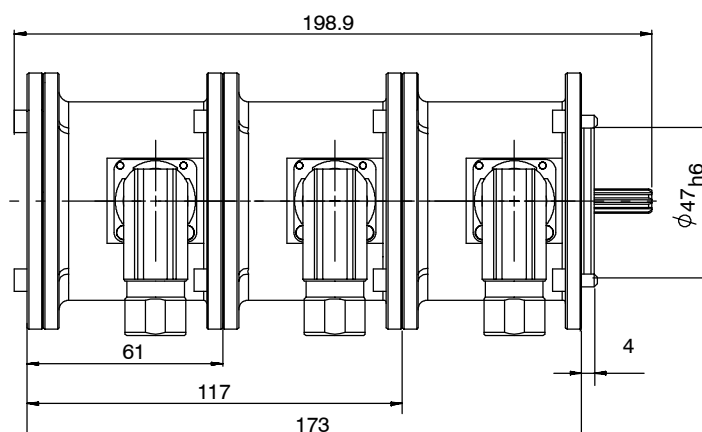


Fig. 3 Connection dimension, 3-module combination

2.1.1 Electrical data

Signal designation	Wire color	Pin
S1	red	11
S3	black	12
S2	yellow	1
S4	blue	2
R1	red – white	10
R2	black – white	7

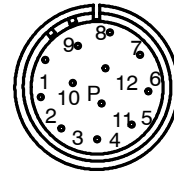


Fig. 4 Pin assignment