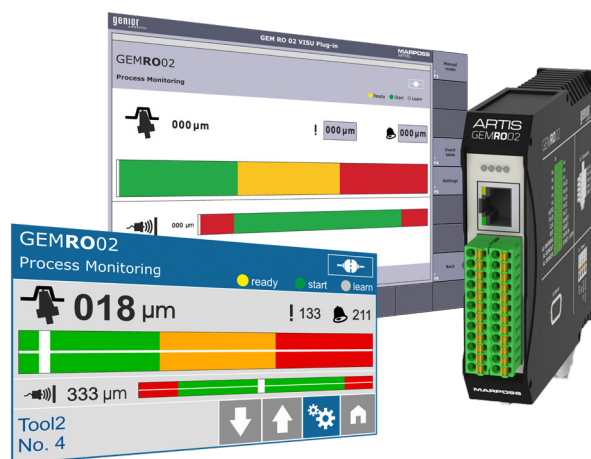


GEMRO02

SYSTEM FOR TOOL HOLDER RUN-OUT DETECTION

Properties

- Reliable detection of chips between tool holder and spindle cone
- Compatible with all tool holders, even those with an interrupted surface (notches)
- Wide measuring range
- Sensor distance to tool holder 0.5 - 1.9 mm
- 100% Stainless steel sensor and coolant tight
- Measuring time 400 ms
- 2 run-out alarms (warning, run-out)
- Sensor mispositioning alarm
- Black box for alarm recording
- Integration into the machine control allows repeated tool change (cleaning included) without operator intervention

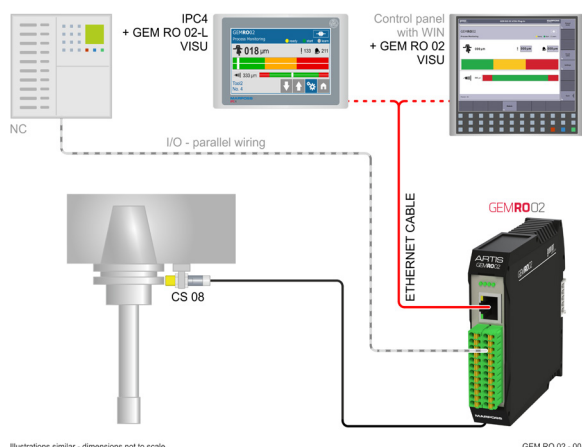


Application example

The GEMRO02 system offers ideal protection against unforeseen machining errors thanks to the fast and reliable identification of chips on the spindle chuck after ATC operation. There are two ways of visualizing the measurement data:

- visualization via Windows PC/operator panel
- or alternatively visualization via the compact 4-inch operator panel (IPC4)

This application sketch shows a GEMRO02 module with GEM RO 02 VISU via operator panel with Windows (or alternatively GEM RO 02-L visualization for IPC4 (with housing)) and an eddy current sensor (CS8I).



Illustrations similar - dimensions not to scale

GEM RO 02 - 001

System components

The system includes the following components:

- DIN rail module GEMRO02
- Visualization software (GEM RO 02 VISU/ GEM RO 02-L VISU)
- Eddy current sensor with connecting cable

Optional additional components:

- Adjustable support for CS8I sensor, for Robodrive machines
- 4-inch operator panel (IPC4)

Performance

- Repeatability: $\pm 2 \mu\text{m}$
- Measuring time: 400 ms
- Spindle speed during measuring: 300 rpm
- Measuring range: 2.0 mm
- Minimum sensor gap: $100 \mu\text{m}$
- Detection of down to $10 \mu\text{m}$ chips

COMPONENTS OF THE GEMRO02 SYSTEM

GEMRO02 Module

CODE: O830ZA00502

GEMRO02 is used for the real-time detection of tool holder run-out based on measurement data of an eddy current sensor.

DIMENSIONS	see drawing
STANDARD IP ADDRESS	192.168.214.106
WEIGHT	138 g
MATERIAL	PolyamidePA 6.6
STORAGE TEMPERATURE	-20 °C... +60 °C
OPERATING TEMPERATURE	+5 °C... +55 °C
UL-CLASSIFICATION	V0 (UL94)
DEGREE OF PROTECTION	IP30
ATMOSPHERIC REL. HUMIDITY STORAGE	max. 2 months, no condensation < 95 %
OPERATION	< 85 % und 85 % ≤ RH < 95 %
INSTALLATION	DIN EN 60715 standard rail
CONTACTING	Spring terminal, screw terminal

ETHERNET PORT	10/100 MBit
WIRE CROSS SECTION	0.2...1.5 mm²
CONNECTION X2	Sensor connection, SUB-D
CONNECTION X3 EIN-/AUSGANGS SIGNALE	10 input signals, 4 output signals (Warning, Danger, Runout, Ready)
INPUTS 1-SIGNAL SOURCE 0-SIGNAL SOURCE 1-SIGNAL SINK 0-SIGNAL SINK	8 V ... 24 V / 10 mA 0 V ... 7 V / 10 mA 0 V ... 19 V / 10 mA 20 V ... 24 V / 10mA
OUTPUTS 1-SIGNAL SOURCE 0-SIGNAL SOURCE 1-SIGNAL SINK 0-SIGNAL SINK	24 V typ., max. 100 mA open 0 V ... 1 V open
CONNECTION X1	24 V DC ±20 %, 300 mA SELV typ. acc to EN 60950-1 Sink-/source operation selectable
CONNECTION X6	CAN bus, 24 V DC

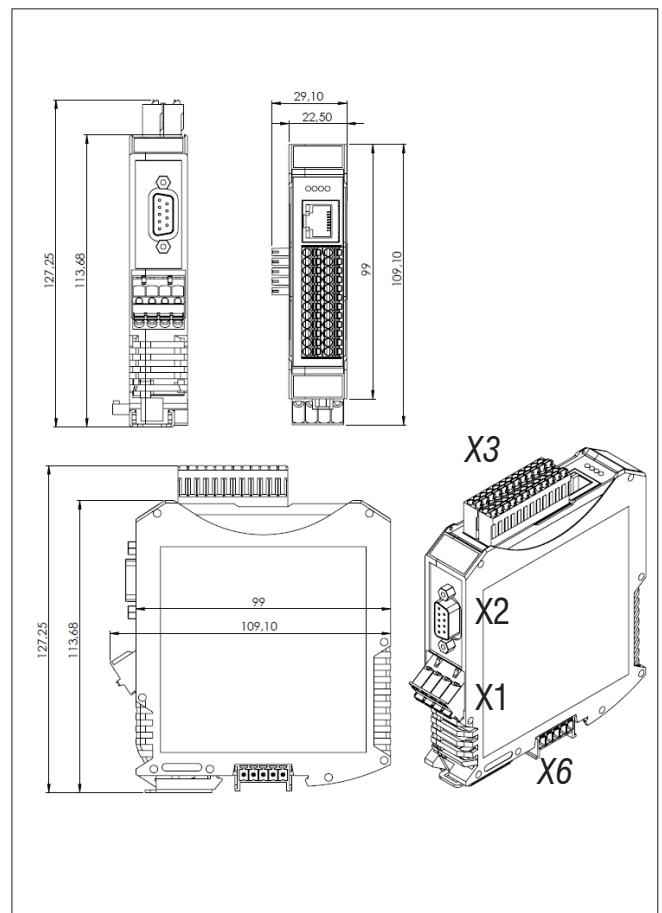
VIBRATION LOAD	
TRANSPORT	ISTA 2
OP. TEST FC 2g max.	(10÷55) / 0.15 / (10÷55) / 0.35

VISUALIZATIONS	
FOR WINDOWS DEVICES	GEM RO 02 VISU
FOR IPC4	GEM RO 02-L VISU



Illustration similar

SOFTWARE REQUIREMENTS	
OPERATING SYSTEM	<ul style="list-style-type: none"> Microsoft Windows® as of WIN XP SP3 Siemens 840D as of V 04.05. (PCU/TCU)
MINIMUM RAM	512 MB
MINIMUM CLOCK FREQUENCY	600 MHz
MOUSE OPERATION	recommended
CONFORMITY	CE



COMPONENTS OF THE GEMRO02 SYSTEM

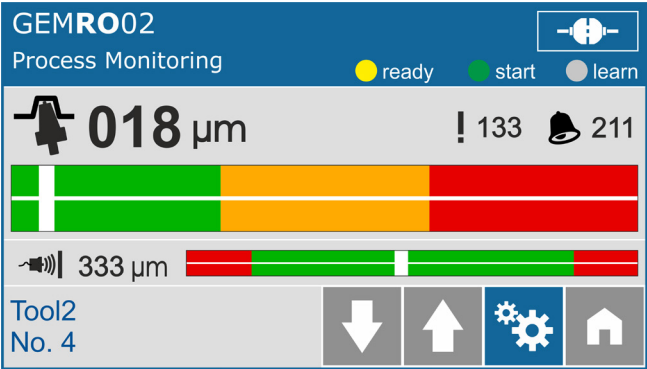
Visualization

Product description

GEMRO02 has two different visualization options:

- GEM RO 02 VISU – Visualization on Windows devices
- GEM RO 02-L – Visualization on **IPC4** Linux devices

OCMZ0113010	GEM RO 02 VISU Software
OCMZ0113110	GEM RO 02-L Handling and operation software for GEMRO02 for use with the IPC4 operator panel



GEM RO 02 VISU	
HARDWARE-REQUIREMENTS	<ul style="list-style-type: none">IPC7/IPC10 operator panel with integrated computer unit or similar PC-systemMin. RAM 512 MBMin. clock frequency 600 MHzMouse operation or touchscreen recommended
OPERATING SYSTEM	Microsoft Windows® as of WIN XP SP3 or Siemens 840D as of V 04.05 (PCU/TCU)

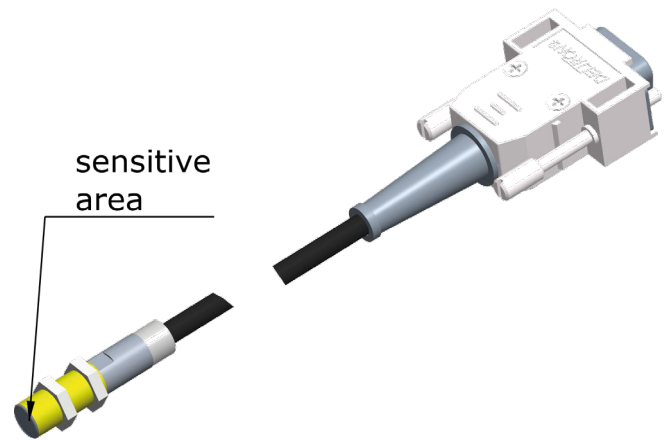
GEM RO 02-L	
HARDWARE-REQUIREMENTS	<p>IPC4 compact operator panel with fan-less system design</p> <p>2 variants available:</p> <ul style="list-style-type: none">IPC4 for switch panel mountingIPC4 with housing, mounting bracket included
OPERATING SYSTEM	Linux, Yocto



COMPONENTS OF THE GEMRO02 SYSTEM

Eddy current sensor CS8I

CODE: O3PZ0510130

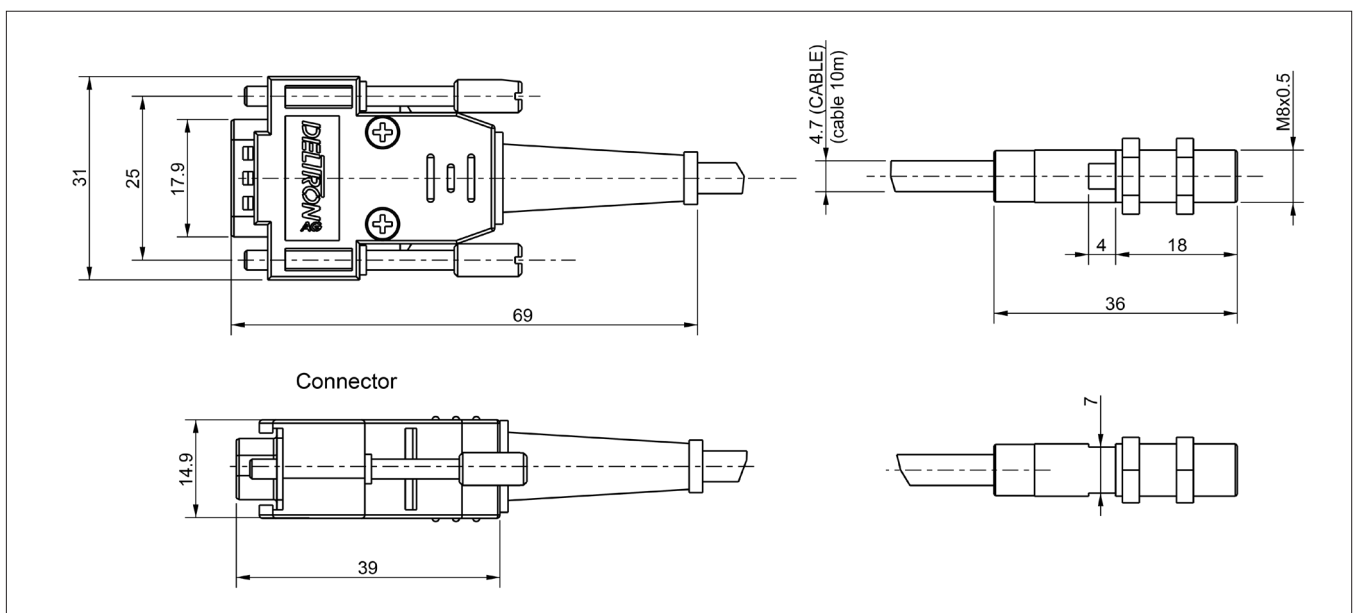


CS8I SENSOR	
DIMENSIONS	see drawing
DEGREE OF PROTECTION	IP67
OPERATING TEMPERATURE	5 °C...70 °C
MEASURING RANGE	2 mm
THERMAL DRIFT	$\pm 0.1 \mu\text{m}/^\circ\text{C}$
ACCURACY	$2 \mu\text{m}$
CABLE LENGTH	10 m
CABLE DIAMETER	4.7 mm
CABLE SHEAT MATERIAL	EU polyurethane-polyether

CAUTION!



- No metal parts between sensor and target!
- No shortening/extending of sensor cable!
- Connector contains data about the specific sensor – exclusively use corresponding connector!
- Mechanical brackets made by the customer for the CS8I sensor must comply with the specifications in the manual. MARPOSS offers a customized sensor holder for Robodrill alpha-D21LiB5 machining centers (see p. 5)

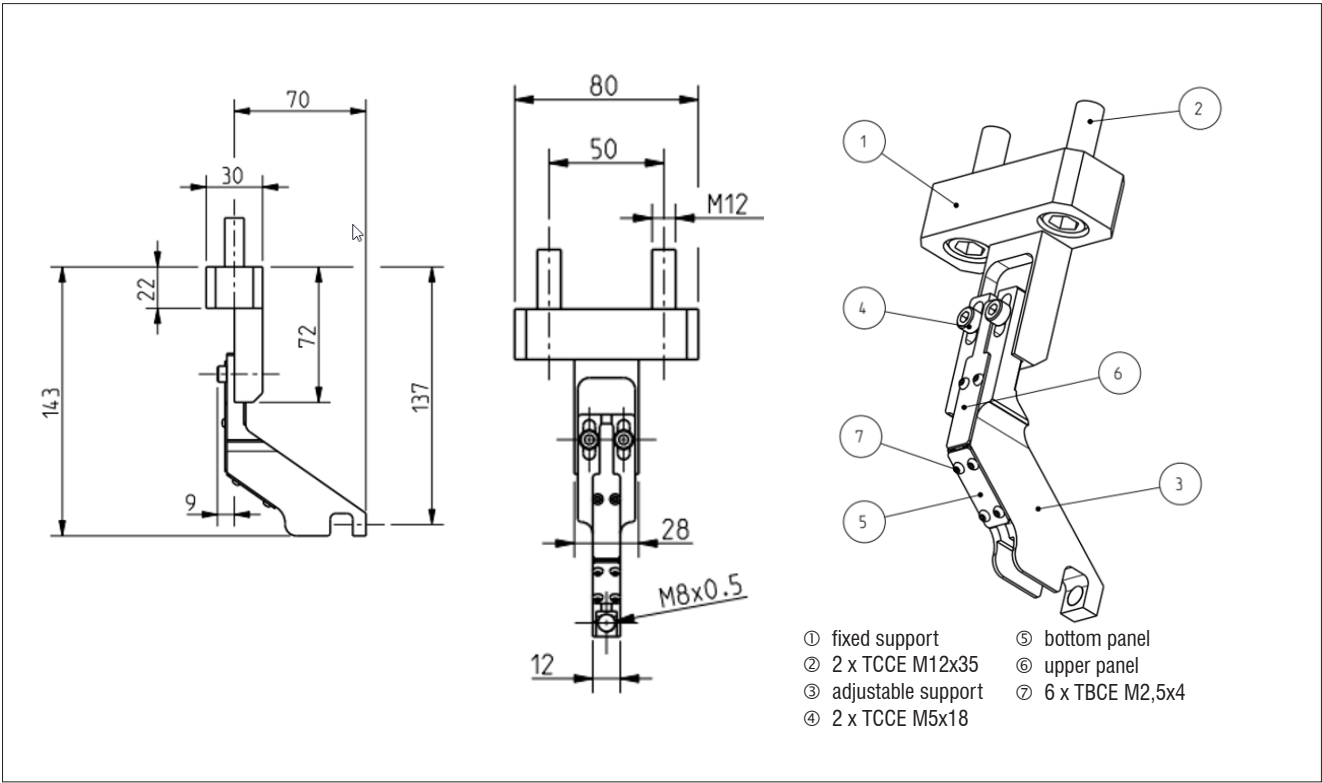
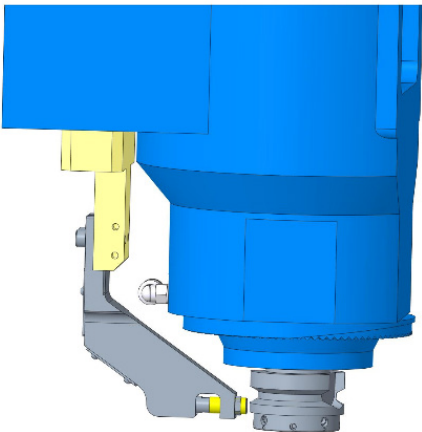


COMPONENTS OF THE GEMR002 SYSTEM

Adjustable sensor holder for Robodrill alpha-D21LiB5 machining centers

CODE: O29P0040820


SENSOR HOLDER FOR CS81 SENSORS	
DIMENSIONS	see drawing
MATERIAL	Stainless steel AISI 303
PROPERTIES	<p>For attaching the CS81 eddy current sensor to the spindle of an alpha-D21LiB5 Robodrill machining center.</p> <p>The holder can be adjusted via slotted holes.</p>



www.marposs.com

For a full list of address locations, please consult the Marposs official website

ODN6438EN10 – Edition 01/2025 – Specifications are subject to modifications
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