Features

- Condition monitoring in pocket format
- Integrated sensors for temperature, air pressure, humidity
- Detection of movement, position, vibration, shock
- Optional connection for external NTC temperature sensors
- Door monitoring of the control cabinet via distance sensor or digital input
- All-purpose input(s) for digital or PWM signals
- Measurement of voltage supply
- Configuration via website
- Transmission of status/value information via MQTT
- ModbusTCP server for data provision
- Digital outputs for alarm signalling
- SD card for long-term logging
- Very compact design

Cabinet Guard

Available April 2026!

Protect and monitor the heart of your system - in real time

The Helmholz Cabinet Guard continuously monitors the conditions inside the enclosure, such as temperature, humidity, air pressure, vibration and the condition of the enclosure door (unauthorised access). By monitoring these environmental parameters, the Cabinet Guard can react to potential problems at an early stage, trigger alarms and thus prevent failures or damage. This helps to maintain system integrity and operational efficiency.

Monitoring of system components is now widely used to increase system availability and carry out maintenance work cost-effectively. The focus is usually on external actuators and sensors, while the control cabinet as the heart of the system often receives less attention. However, the inside of the enclosure is also exposed to numerous hazards and the effects of ageing. Temperature, humidity, air pressure, vibration and shocks are typical environmental factors that can affect the service life of the enclosure.

With a Cabinet Guard in the control cabinet, all this information can be monitored, analysed or alarms generated, completely independently of the PLC.

The Cabinet Guard is configured conveniently via a web interface. The measured values can be easily forwarded to other components or higher-level systems (host computer, MES, cloud) via MQTT and ModbusTCP.

At the same time, the measured values can be saved to an SD card for long-term recording, which also enables long-term evaluation of ageing phenomena. To improve the efficiency of the system, the recordings of the control cabinets of different machines can be compared and thus optimisation possibilities can be found in the design.

Thanks to its distance sensor, the Cabinet Guard can also monitor the opening of the enclosure doors. The Cabinet Guard is therefore also an important sensor when considering the security of a machine.

Preliminary information - Technical data may change before product release.

General information

Order number	700-210-1AA11
Article name	Cabinet Guard
Scope of delivery	Cabinet Guard with plug
Dimensions (DxWxH)	55 x 24 x 109 mm (without plug)
Weight	approx. 150g

Ethernet interface (X1)

Quantity	1
Connection	RJ45
Transmission rate	10/100 Mbit/s
Type	10Base-T, 100Base-TX
Protocols	HTTPS web server, ModbusTCP, MQTT, SNMP

Digital IOs (X2)

Inputs	5, type 3 according to DIN EN 61131-2
Outputs	2, 500mA 24V DC, with electronic fuse

Analogue inputs (X3)

Inputs	2
Type	NTC 10KOhm, 2-wire
Measuring accuracy	-55°C ... +350°C, +/- 0.1°C

Environmental sensor (internal)

Temperature measurement	-20°C ... +80°C, +-2°C
Humidity	30% r.H. ... 90% r.H., Tol.: +-5%
Air pressure measurement	HPa, Tol.: +-1.7 hPa @25°C .. 60°C

Distance sensor

Type	Optical Time-of-Flight (TOF)
Distance, accuracy	3 cm...100 cm, +-6%

Motion sensor

Functions	3-Axis Accelerometer: Vibration, shock, orientation, acceleration
Resolution	+-16g, bandwidth: 1.3kHz

Status display

LEDs	4

Power supply

Operating voltage	DC 24 V, 12...30 V DC
Current consumption	max. 85 mA at 24 V DC
Power loss	Max. 2 W
Measurement of supply voltage	10V ... 30V, +-3%

Ambient conditions