

elesa

Original design UC-RF

1 Interface

- 1 Profinet
- 2 Modbus TCP
- 3 Ethernet / IP
- 4 EtherCAT

2 Generation

V2 Version 2

Specification

Plastic, Polycarbonat (PC)

- ABS reinforced
- Self-extinguishing
- Operating temperature 0 °C to +50 °C

RoHS

Control units GN 9150 are designed for electronic position indicators GN 9153 / GN 9154 with radio data transmission and magnetic measuring systems GN 7110. They communicate via radio frequency with the position indicators as a wireless system for quick positioning.

Position indicators GN 9153 / GN 9154 are required for the system to function. Control units GN 9150 and magnetic measuring systems GN 7110 form the interface between the position indicators and the machine control. A target position value is sent by the machine control to the control unit, which transmits this via radio frequency to the position indicator. The position indicator signals its current position value back to the control unit. In combination with the machine control, this makes it possible to ensure that the production cycle does not start when the position set on the position indicator is incorrect, which can prevent errors in the production process.

see also...

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GN 9153 Position Indicators	QVX
GN 9154 Position Indicators	QVX
GN 7110 Magnetic Measuring Systems	QVX





Technical Information

Description of function	QVX
Plastic Characteristics	QVX

How to order

GN9150-1-V2

- | | |
|---|------------|
| 1 | Interface |
| 2 | Generation |

Electrical and mechanical characteristics	
Supply voltage	24 V DC
Power consumption	50 mA
Frequency range	2,4 GHz ... 2,416 GHz
Antenna connector	SMA bushing, coaxial cable RG 174/U
Reverse voltage protection	Yes
Operating temperature	0 °C ... +50 °C
Humidity	max. 80 % (without condensation)
EMV	acc. to EN 61000-6-2; EN 61000-6-3
Mounting	on top hat rails acc. to IEC 60715
Integration machine control	with network cable RJ45
Bus systems	   
Compatibility	Position indicators, mechanical measuring systems and control units can only be combined together in matching versions.

Security information

The position indicators and control unit communicate using a proprietary ELES protocol. For identification purposes, each device has a unique device ID, which is assigned at the factory and pre-installed.

Disruptions or interference from other typical wireless networks, such as WiFi, Bluetooth, etc. do not impair the functioning of the system, but they may lengthen the response time of the position indicators to the control unit.

Avoid placing the control unit immediately next to high-powered components, such as motors, converters, etc. If this is not possible, a safe distance of at least 200 mm should be ensured.

Other important information and notes can also be found in the operating instruction. It is part of the scope of delivery and can be downloaded as a PDF at ganternorm.com/service/downloads/operating-instructions.



Description of function

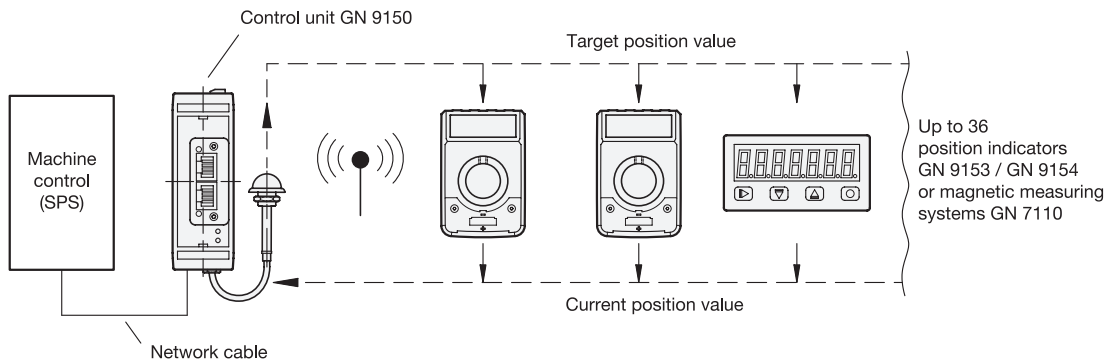
The following components are required to start up the wireless system:

- Control units GN 9150
- Electronic position indicators GN 9153 / GN 9154 or magnetic measuring systems GN 7110

Each control unit can be coupled to up to 36 position indicators or magnetic measuring systems. The radio frequency system network allows the operation of various machines in the same room without mutual interference. A RJ45 network cable is used to connect to the machine control. The following standard bus systems are offered for the control unit:

- Profinet
- Modbus TCP
- Ethernet / IP
- EtherCAT

The control unit can send the target position value received from the machine control to the position indicators. The indicators then report their current position via radio frequency. In addition, the programmable parameters of the networked devices can be read or configured between the control unit and the machine control over the wireless connection.



If the target position value and current position value do not match, the LCD display of the position indicator begins to flash. The machine technician must then adjust the position indicator to the correct value. The LCD display shows the difference between the target position value and the current position value and the direction in which it must be turned. It must be turned until a value of 0 appears on the display, meaning zero deviation between the current and target position value.

Example: The current position of the position indicator is 80 mm, the specified target position is 100 mm, and a difference of 20 mm appears on the display of the position indicator. The indicator must be turned in the appropriate direction until the value 0 appears on the display.

The position indicators communicate with the control units via a proprietary ELESA protocol and use the ISM SRD frequency range of 2,4 GHz ... 2,416 GHz. The following data is communicated over the radio signal:

- Device status
- Device parameters, read and write
- Target position value of the position indicator
- Current position value of the position indicator
- Battery change required

The effective range of the radio communication is up to 30 meters. The antenna of the control unit must be in a clear and ideally high location. It can also be extended, if necessary.

Each connected wireless position indicator compares its protocol with the control unit every 4 seconds. If required, this time can be reduced to 0.5 seconds. The control unit receives the information from all position indicators and processes it in chronological order.