

IZBOX-600

Evaluation & Transmission System with Incremental Sensor

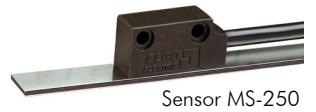


- With integrated 868 MHz wireless module
- Integrated high performance ceramic antenna
- Transmission range up to 200 meters (with intervisibility)
- Four resolutions selectable (0.01 / 0.05 / 0.10 / 1.00 mm)
- Measuring system for linear or angular measurements (by using a coded magnetic tape or magnetic ring)
- Integrated battery case (with cover) for 1.5 V mono cell
- Two status LEDs for first start up (can be switched off)
- RF transmission cyclically or released by external input
- Reset of the measurement value by external input
- System configuration settings via DIP switches
- Easy to install (via mounting holes or optionally by Snap-On attachment for top hat rails)
- Auto Power Off function at sensor inactivity
- Auto Power On at sensor movement

IZBOX-600 - Evaluation & Transmission System with Incremental Sensor

General:

The length measuring system **IZBOX-600** consists of an external MS-250 magnetic sensor, which is connected via drag-chain suitable cable to the evaluation unit (translator). For measurement, a coded magnetic tape is glued along the measuring section. The magnetic tapes supplies the necessary information (current position) to the incremental sensor.

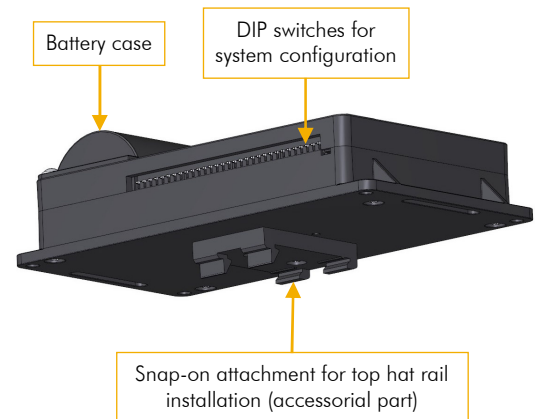


The sensor is guided contactless and absolutely wear-free over the magnetic tape. Alternatively, a magnetic ring (see photo left) is available for rotary applications (e. g. angle measurements). Thanks to its high IP67 protection class, the external sensor is insensitive against dust, dirt and water. The compact sensor design allows an easy installation as well into existing as new machine constructions.

In order to adapt the system to the respective application, the evaluation unit has extensive options for parameterization. The settings for system configuration are made via a side-accessible bar with DIP switches (see figure on the right).

The following parameters can be set: RF network address | RF address | RF radio channel | RF transmission cycle | status LEDs on/off | transmission protocol | system resolution | counting direction | reset by external input reset once/permanently | start calibration.

Since no special tools, no wiring or electrical connections are required, the **IZBOX-600** system is predestined for mobile mounting on manual sliding carriages and stop systems.



Characteristics:

For transmission of the actual value (position), the **IZBOX-600** is equipped with an 868 MHz radio module (ISM band). The actual value can additionally be visualized by a battery-operated ELGO position indicator **IZ16E-620**, which is equipped with a compatible radio interface for receiving the IZBOX data.

IZBOX-600 Accessories:

As accessories are 868 MHz transceivers available, which has been adapted exactly to the **IZBOX-600**. The transceiver is available as a separate box (55 x 51 x 28 mm) with RS232 interface or as a compact stick with USB 2.0 interface. It is also possible to transmit the data of several **IZBOX-600** units to the same USB or RS232 receiver (does not apply for IZ16-620 units).

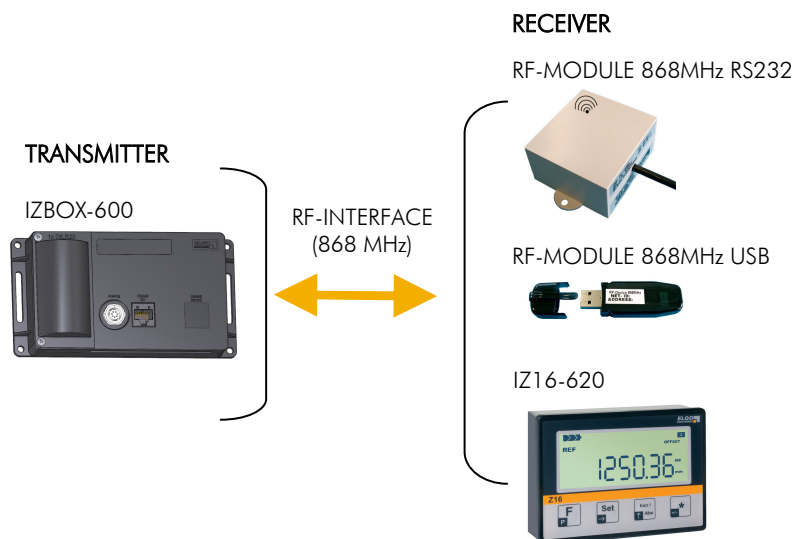
An important feature of all **IZBOX-600** units and optionally available 868 MHz transceivers is the bidirectional data transmission with CRC checksum calculation with 5 times repetition of not receipted radio telegrams and issuing a reception acknowledgment.

Under optimal conditions, the IZBOX and the external transceivers are able to cover a transmission range of up to 200 meters.

For mounting the **IZBOX-600**, a snap-on attachment is available which allows an easy one-click-installation onto a 35 mm top hat rail without the use of tools. The required mounting holes are located on the bottom of the IZBOX housing.

Order designations (accessories):

Further accessories (e. g. required magnetic tape or magnetic rings) as well as the respective order designations can be found in the table below on the last page.



IZBOX-600 - Evaluation & Transmission System with Incremental Sensor

Technical Data:

IZBOX-600	
System configuration	via 32 DIP switches
Measuring principle	magnetically incremental
Measuring method	linear or rotative
Resolution (selectable)	0,01 / 0,05 / 0,10 / 1,00 mm
Power supply voltage	1.5 V battery (type D, mono cell)
Current consumption (incl. measuring system)	< 1 mA at 1.5 V during normal operation without radio transmission approx. 5 mA at 1.5 V during continuous radio transmission
Battery service life	1 ... 3 years (depending on battery type and effective on-time)
Operating temperature	0 ... + 50° C
Storage temperature	-10 ... +60° C
Humidity	max. 80 %, non-condensing
Operating speed	max. 4 m/s
Housing	plastic ABS, black
Housing dimensions	W x H = 150 x 80 mm
Installation depth	67 mm (incl. sensor connector)
Protection class	IP40

Magnetic Sensor MS-250

Required magnetic tape	MB20-25-10-1-R (linear measurements)
Required magnetic ring	MR 3848 (angular measurements)
Pole pitch of the tape	2.5 mm
Sensor cable length	0.1 m ... max. 2.0 m
Sensor cable	drag chain suitable, 6-wire, twisted pairs and double shielded
Housing	zinc die cast
Protection class	IP67
Operating temperature	0 ... + 50° C
Storage temperature	-10 ... +60° C
Mounting position	arbitrary
Bending radius (cable)	min. 60 mm
Repeat accuracy	± 2 increments
Distance sensor - tape	max. 0.8 mm
Influence of external magnetic fields	External magnetic fields > 1 mT, which directly impinge upon the sensor can affect the system accuracy

Technical Data:

868 MHz Specification	
Transmission range	up to 200 m (with intervisibility)
HF data rate	38 Kbps
Output power	Typ. 2 dBm e.i.r.p. (10 dBm at 50 Ω)
Input sensitivity	up to -102 dBm (-110 dBm at 50 Ω)
Frequency range	863 ... 868.6 MHz
Channel spacing	50 kHz
Type of modulation	2-FSK, MSK
Antenna	integrated ceramic antenna
Topology	Point to Point
Transmission	- bidirectional - half duplex - with acknowledgement - with CRC checksum - 5 times repetition of not receipted radio telegrams
Addressing	2 Byte address range, max. 64.000 different addresses
Conformity (Europe)	EN 300220-1, EN 301489-1/-3, EN 60950-1, EN 50371

Type Designation:

IZBOX - - - - -
A A A - B - C C C - D

A SN number

600 = with integrated 868 MHz wireless module

B Power supply

8 = integrated battery case with cover
(1 x Type D / LR20 / Mono)

C Signal cable length in XX.X m*

01.5 = 1,5 m (example), max. 2 m available*

D Cable option

1 = round connector

*) Available standard signal cable lengths:

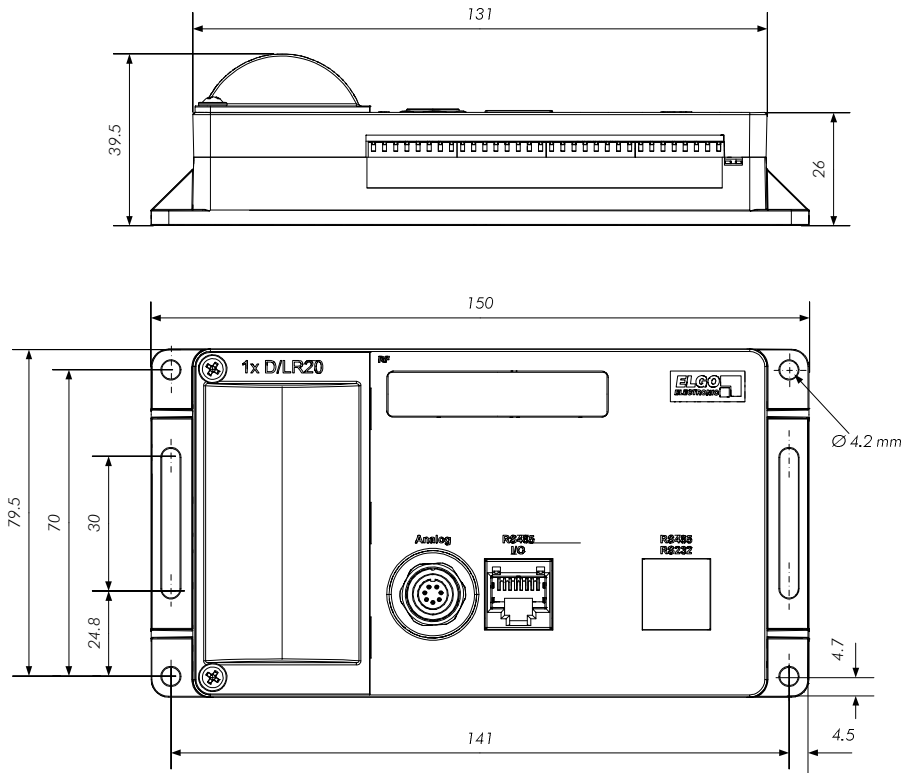
0.2 / 0.3 / 0.5 / 0.6 / 0.8 / 1.0 / 1.1 / 1.5 / 1.8 / 2.0 m

Oder example:

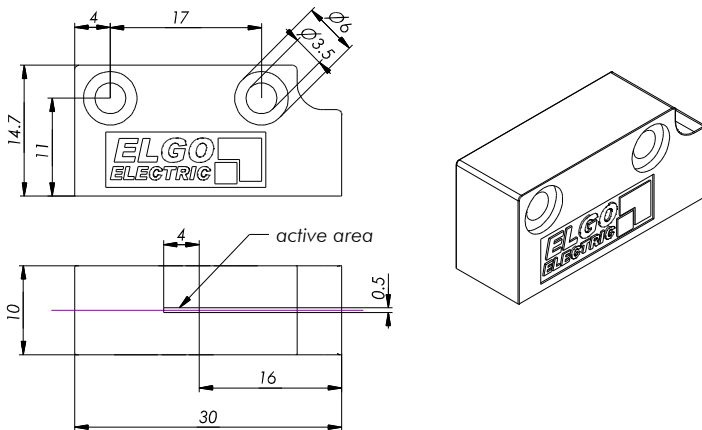
IZBOX - 600 - 8 - 01.5 - 1
A A A - B - C C C - D

ELGO IZBOX with integrated wireless module (868 MHz), integrated battery case + cover, 1.5 m long signal cable and round connector.

Dimensions IZBOX:



Dimensions Sensor MS-250:



Accessories for IZBOX-600:

Order Designation	Description
MB20-25-10-1-R-XX.X*	Magnetic tape for linear measurements, 2.5 mm pole pitch for MS-250 sensor *) please indicate the desired measuring length in XX.X meters
End cap set 10 mm	End caps for fixing 10 mm wide magnetic tapes
MR 3848	Magnetic ring for rotative measurements, 2.5 mm pole pitch for MS-250 sensor
RF-MODUL 868MHz USB	Radio Module Stick with USB 2.0 interface and closure cap
RF-MODUL 868MHz RS232	Radio Module Box with RS232, 1 m long cable and open cable ends (standard)
RF-MODUL 868MHz RS232-3m	Radio Module Box with RS232, 3 m long cable and open cable ends
IZ16-620	External Slave Indicator with 7-digit LCD display and radio module
Art. No. 764000006	Snap-on attachment for top hat rail (for mounting holes in the IZBOX housing)

