



WIS transmitter primary (TX)

Features

- **Wireless transmission of power and data**
- **Transmission distance up to 7 mm**
- **8 channels for transfer of switching signals**
- **12 W transmission power**

Description

The WIS primary transmitter enables power to be transmitted and switching signals to be received wirelessly in connection with the WIS secondary transmitter. Flexibility in terms of rotation, inclination, angle, and orientation allows for a wide range of applications. A typical application is power and signal transmission for sensors.

Technical Data

General specifications

Installation	non-flush
Transfer distance	0 ... 7 mm
Transfer direction	8 signals from secondary side to primary side ; power from primary side to secondary side

Electrical specifications

Operating voltage U_B	24 V DC \pm 10 % , reverse polarity protected
Current consumption	max. 750 mA ; max. inrush current 1400 mA
Undervoltage switching-off	< 20.3 V
Power consumption P_0	1 W without coupling with receiver ; 4 W during coupling with receiver

Output

Number/Type	8 / digital outputs
Output rated operating current	\leq 250 mA \pm 20% (overcurrent protected)
Output voltage	0 ... 24 V
Output type	switched high , PNP
Switching delay	max. 800 μ s

Ambient conditions

Ambient temperature	-20 ... 55 °C (-4 ... 131 °F)
Storage temperature	-20 ... 100 °C (-4 ... 212 °F)

Mechanical specifications

Connection type	L = 300 mm \pm 50 mm Cable with M12 x 1 connector , 12-pin
Housing material	brass, nickel-plated
Sensing face	LCP
Degree of protection	IP67
Installation	screw mounting
Mass	150 g

General information

Note	The mounting conditions are described in an extra document. See on product page in the internet.
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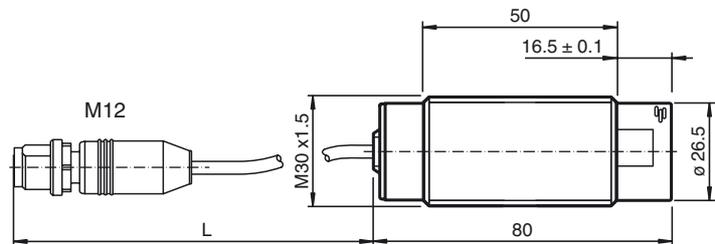
Compliance with standards and directives

Directive conformity	
EMC Directive 89/336/EEC	acc. to IEC 61000-4-2 , acc. to IEC 61000-4-2

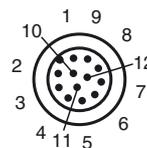
Approvals and certificates

CCC approval	CCC approval / marking not required for products rated \leq 36 V
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Dimensions



Pinout



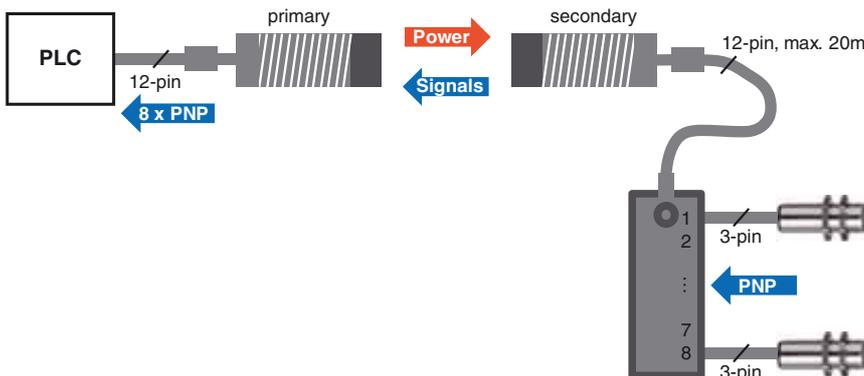
Electrical Connection

M12 connector, 12-pin	
Pin	Signal
1	+24 VDC: UB+ for primary transmitter
2	GND for primary transmitter
3	Output 1
4	Output 2
5	Output 3
6	Output 4
7	Output 5
8	Output 6
9	Output 7
10	Output 8
11	FOD: status signal for detecting foreign objects
12	Status_NOK: status signal for detecting the secondary transmitter

System description

System overview, intended use

The WIS transmitter system always consists of a WIS primary transmitter and a WIS secondary transmitter. The system is used to transmit power and switching signals (PNP). To ensure that the transmitter system operates securely and reliably, only primary and secondary transmitters provided by the manufacturer may be combined. The sensors are connected to the WIS secondary transmitter using additional connection technology such as an 8-way distributor V1-8A-E2-V112.



Time delay before availability

Once the voltage supply has been switched on, the WIS transmitter system has a time delay before availability for transferring both power and data.

A distinction is drawn between 2 scenarios:

- 1) The WIS primary transmitter and WIS secondary transmitter are parallel with one another. The WIS primary transmitter is switched on. It takes 160 ms until the WIS secondary transmitter is ready and has sent current signals to the WIS primary transmitter.
- 2) The WIS primary transmitter is switched on and the secondary WIS transmitter enters transmitting mode. It takes 25 ms until the WIS secondary transmitter is ready and has sent current signals to the WIS primary transmitter.

The time delay before availability of the connected sensors must still be considered in this instance.

Reverse polarity protection of the voltage supply

If the polarity of the connected voltage supply is incorrect, the WIS primary transmitter switches itself off.

Short-circuit protection for voltage output and output data signals

The WIS transmitter system switches off the voltage and data if the voltage outputs

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of the WIS secondary transmitter or the data outputs of the WIS primary transmitter overload or short-circuit.

Reverse polarity protection for data inputs

The data inputs of the WIS transmitter system are reverse polarity protected.

Excess temperature protection

The WIS transmitter system switches off in the event of excess temperature.

Foreign object protection

If a metal object becomes present between the WIS primary and secondary transmitters, the WIS transmitter system switches itself off and issues a status signal.

Dynamic coupling

The transmitters in the WIS transmitter system are not paired to one another and are freely interchangeable.

Status signals

The WIS primary transmitter has 2 status signals (FOD and Status_NOK) for signaling whether the system is operating within range or for signaling the presence of faults such as excess temperature or a foreign object.

Transmitter situation	FOD	Status_NOK	Meaning
- WIS primary transmitter connected to voltage supply - WIS secondary transmitter missing	Low level	High level	
- WIS primary transmitter connected to voltage supply - WIS primary and secondary transmitters are connected	Low level	Low level	Normal operation, system operating within range
- WIS primary transmitter connected to voltage supply - WIS primary and secondary transmitters are connected - System error	Low level	High level	System error, e. g., excess temperature or WIS secondary transmitter obscured by a foreign object
- WIS primary transmitter connected to voltage supply - WIS primary and secondary transmitters are connected - Power consumption too high due to foreign object	High level	High level	System error, e. g. WIS secondary transmitter obscured by a foreign object