

JUMO Wtrans B

Programlanabilir kablosuz kafa tipi transmitter

Kısa açıklama

Kablosuz veri iletimli Wtrans B kafa transmitteri, RTD sıcaklık problemleri veya termokupllar ile sabit veya mobil sıcaklık ölçümü için bir Wtrans alıcısı ile birlikte kullanılır. Alternatif olarak, harici paralel sargıdan geçen akım kullanılarak 10 kΩ'a kadar direnç veya 50 mV'a kadar ve 20 mA'ya kadar gerilim ölçülebilir. Müşteri özel doğrularlaştırma mümkündür.

Ölçülen değerler kablosuz olarak Wtrans ölçüm sisteminin alıcısına iletilir. Ölçülen değerler alıcıda görüntülenir ve RS485 arayüzünde dijital formatta ve analog çıkış olarak alınır. Alternatif olarak iki röle çıkışı ile farklı alarm değerleri ayarlanabilir.

Endüstriyel uygulamalar için tasarlanmış bu kafa tipi transmitter, entegre iletim ünitesi ve anten-pil yuvasına sahip bir transmitterden oluşur. Transmitter, form B terminal kafalara monte edilmeye uygundur ve -30 ila +85°C ortam sıcaklığı aralığına sahiptir. Müşteriye özel terminal kafalarına montaj da mümkündür. Anten-pil muhafazası, bir vidalı bağlantı (M20 × 1.5) ile terminal kafasına bağlanmıştır.

Wtrans ölçüm sisteminin radyo frekansı 868.4 MHz'dir. Bu frekans, dış parazitlere karşı oldukça dayanıklıdır ve zorlu endüstriyel ortamlarda bile verilerin iletilmesini sağlar. Açık alanda 300 m'ye kadar ölçüm alınabilir.

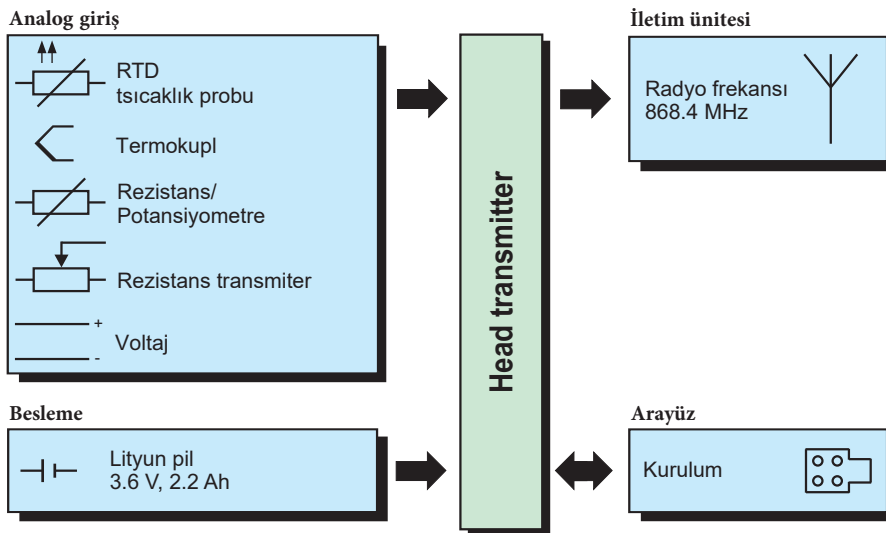
Ana transmitter voltaj beslemesi için 3,6 V, 2,2 Ah (AA boyutunda) lityum pil kullanılır.

Bir bilgisayarda ana transmitterin ve Wtrans alıcısının kolay konfigürasyonu ve parametrelendirilmesi için aksesuar olarak bir kurulum programı mevcuttur. OnlineChart işlevi, isteğe bağlı olarak ölçülen değerleri bir PC'ye kaydetmek için kullanılabilir.



Tip707060/...

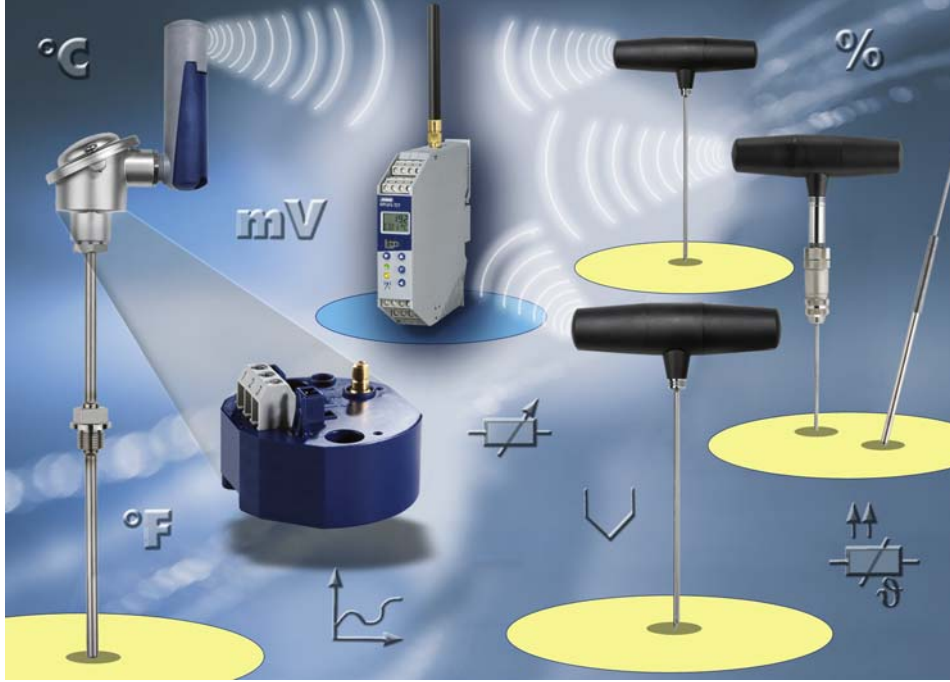
Blok diyagram



Özellikler

- Radyo frekansı 868.4 MHz
- Ölçüm girişleri; RTD sıcaklık probu, termokupl, rezistör/potansiyometre, rezistans transmitter ve voltaj
- Konfigüre edilebilir transmitter
- Pil durumu izleme
- Kolay pil değişimi
- Kurulum programı ile konfigürasyon
- Müşteri özel doğrularlaştırma (tablo biçiminde veya dördüncü dereceden polinomlarda değer çiftleri) alıcı üzerinden de yapılabilir
- Kurulum programı ve alıcı aracılığıyla ölçülen değerlerin çevrimiçi grafiği

JUMO Wtrans



Programlanabilir kafa tipi transmitter 707060'ın yanı sıra JUMO Wtrans serisi ayrıca 902931/... alıcıları, 402060/..., 902928/... ve 902930/... transmitterlerini içerir.

JUMO Wtrans serileri

Tip	Açıklama	Teknik döküman
JUMO Wtrans alıcı	JUMO kablosuz ölçüm problemleri için universal alıcı (Voltaj beslemesi AC 110 - 240 V veya AC/DC 20 - 30V)	902931
JUMO Wtrans T	Transmitter Kablosuz veri iletimli RTD sıcaklık probu (yazılım sürümü 01.01'den itibaren universal alıcılar için) <ul style="list-style-type: none">• insert veya mineral izoleli RTD sıcaklık probu olarak• çeşitli ortam ve çalışma sıcaklıkları için• sabit ve esnek koruma kılıfları ile• RTD sıcaklık problemleri için M12 × 1 fiş konnektörü• bağlantı kablolu RTD sıcaklık problemleri için M12 × 1 fiş konnektörü• ATEX onaylı	902930
JUMO Wtrans E01	Transmitter Kablosuz veri iletimli nem, sıcaklık ve CO2 için ölçüm probu (yazılım sürümü 05.01'den itibaren universal alıcılar için)	902928
JUMO Wtrans B	Transmitter Kablosuz veri iletimli programlanabilir kafa tipi transmitter (yazılım sürümü 03.01'den itibaren universal alıcılar için)	707060
JUMO Wtrans p	Transmitter Kablosuz veri aktarımlı basınç transmitteri (yazılım sürümü 04.01'den itibaren universal alıcılar için)	402060



Termokupllar

Tasarım	Standart	Ölçüm aralığı	Ölçüm hassasiyeti ^a
Fe-CuNi "L"	DIN 43710	-200 ila +900 °C	±0.1 %
Fe-CuNi "J"	DIN EN 60584	-210 ila +1200 °C	±0.1 % -100 °C de
Cu-CuNi "U"	DIN 43710	-200 ila +600 °C	±0.1 % -100 °C de
Cu-CuNi "T"	DIN EN 60584	-270 ila +400 °C	±0.1 % -150 °C de
NiCr-Ni "K"	DIN EN 60584	-270 ila +1372 °C	±0.1 % -80 °C de
NiCr-CuNi "E"	DIN EN 60584	-270 ila +1000 °C	±0.1 % -80 °C de
NiCrSi-NiSi "N"	DIN EN 60584	-270 ila +1300 °C	±0.1 % -80 °C de
Pt10Rh-Pt "S"	DIN EN 60584	-50 ila +1768 °C	±0.15 % 20 °C de
Pt13Rh-Pt "R"	DIN EN 60584	-50 ila +1768 °C	±0.15 % 50 °C de
Pt30Rh-Pt6Rh "B"	DIN EN 60584	0 ila 1820 °C	±0.15 % 400 °C de
W5Re-W26Re "C"		0 ila 2320 °C	±0.15 %
W3Re-W25Re "D"		0 ila 2495 °C	±0.25 %
W3Re-W26Re		0 ila 2400 °C	±0.15 %
Chromel®-CopeI®		-200 ila +800 °C	±0.1 % -80 °C de
Chromel®-Alumel®		-200 ila +1372 °C	±0.1 % -80 °C de
PLII (Platinel II)		0 ila 1395 °C	±0.15 %
MoRe5-MoRe41		0 ila 2000 °C	±0.2 %
Cold junction		Pt1000 iç	
Cold junction hassasiyeti		±1 K	

^a % cinsinden tüm doğruluk değerleri, maksimum ölçüm aralığını ifade eder.

Rezistans/potansiyometre

Tasarım	Ölçüm aralığı	Ölçüm hassasiyeti ^a
Rezistans/potansiyometre Doğrusallaştırma: 0 ila 100 %	> 50 ila ≤400 Ω > 400 ila ≤4000 Ω > 4000 ila ≤10000 Ω	±400 mΩ ±4 Ω ±10 Ω
Rezistans/potansiyometre Doğrusallaştırma: rezistans Ω	> 50 ila ≤10000 Ω	±0.1 %
Bağlantı tipi	2-telli yada 3-telli devre	
Yük kompanzasyonu	3 telli devre için gerekli değildir (hat başına maksimum izin verilen 11 Ω), maks. 2 telli devre için ayarlanabilir hat direnci: 22 Ω	

^a % cinsinden tüm doğruluk değerleri, maksimum ölçüm aralığını ifade eder.

Rezistans transmitter

Tasarım	Measuring range	Measuring accuracy
Resistance transmitter	> 50 to ≤ 400 Ω > 400 to ≤ 4000 Ω > 4000 to ≤ 10000 Ω	±400 mΩ ±4 Ω ±10 Ω
Connection type	3-wire connection	
Condition	$R_e + R_a + R_s \leq 10000 \Omega$ and $R_e + R_a \leq 1/3 R_s$	

Voltage

Designation	Measuring range	Measuring accuracy ^a
Voltage	0 to 50 mV	±0.1 %

^a All accuracy values in % refer to the maximum measuring range.

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Measuring circuit monitoring

Measuring probe	Out of range detection	Probe/cable short circuit detection	Wire break detection
Thermocouple	Yes/Yes	No	Yes
RTD temperature probe	Yes/Yes	Yes	Yes
Resistance/potentiometer	Yes/Yes	Yes	Yes
Resistance transmitter	No/No	No	No
Voltage	Yes/Yes	No	Yes

Output (radio transmission)

Transmitter detection (transmitter ID)	Max. five-digit ID, default setting, customer-specific configuration possible
Transmission interval	Adjustable from 1 to 3600 s (default setting 15 s)
Radio frequency	868.4 MHz (Europe)
Transmission power	< +10 dBm
Open air range	Max. 300 m when using the receiver antenna holder for wall mounting, and 3 m antenna cable; when installing the antenna directly on the receiver, the user must take approx. 40 % less range into consideration
Output signal	
Thermocouple	Voltage (mV)
RTD temperature probe	Resistance (Ω)
Resistance/potentiometer	Percent (%) or resistance (Ω)
Resistance transmitter	Percent (%)
Voltage	Voltage (mV)
Configuration	With setup program
Configurable parameters	Transmitter ID (max. 5-digit ID) and transmission interval

Electrical data

Voltage supply	
Lithium battery	Rated voltage: 3.6 V, rated capacity: 2.2 Ah; size AA
Operating life	Approx. 1 year with the factory-set values (transmission interval = 15 s) and at room temperature; shorter transmission interval and high or low ambient temperature reduce the battery operating life.
Battery change	Only use the lithium battery that is available as an accessory

Environmental influences

Transmitter in the terminal head, form B with antenna-battery housing

Ambient temperature range	-30 to +85 °C
Storage temperature range; storage humidity	-40 to +85 °C; rel. humidity \leq 95 %
Temperature influence ^a	
Thermocouple	$\leq \pm 0.005$ %/K deviation 22 °C plus accuracy of the cold junction
RTD temperature probe	$\leq \pm 0.005$ %/K deviation from 22 °C
Resistance/potentiometer	$\leq \pm 0.01$ %/K deviation from 22 °C
Resistance transmitter	$\leq \pm 0.01$ %/K deviation from 22 °C
Voltage	$\leq \pm 0.005$ %/K deviation from 22 °C
Climate class	10 cycles at 10 °C / 80 °C, according to IEC 68-2-30, rel. humidity 95 %, during operation
Vibration resistance	According to GL characteristic line 2
Admissible mechanical shock resistance	10 g for 6 ms, DIN IEC 68-2.29
Electromagnetic compatibility (EMC)	DIN EN 61326-1

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Interference emission	Class B - household and small businesses -
Interference immunity	Industrial requirements
Radio frequency spectrum	ETSI EN 300 220-1 and ETSI EN 300 220-2

^a All accuracy values in % refer to the maximum measuring range.

Housing

Transmitters

Type	Plastic housing to be installed in terminal head, form B
Material	Polycarbonate
Flammability class	UL 94 V2
Dimensions	
Diameter	44 mm
Height with/without connectors	31 mm / 27 mm
Protection type	IP00: With open installation IP65: With installation in suitable terminal head, form B
Connections	
Sensor	3-pin connection terminal RM 5 mm, conductor cross-section 1.5 mm ²
Antenna	SMB connector
Voltage supply	2-pin multi-pin connector RM 2.54 mm
Setup	4-pin connector
Weight	Approx. 35 g

Antenna battery housing

Type	Plastic housing with M20 × 1.5 thread for terminal head, form B
Material	Polyetherimide
Flammability class	UL 94 HB or UL 94 V-0
Dimensions	
Diameter	30 mm
Height	115 mm
Protection type	IP65, according to DIN EN 60529
Connection	
Antenna	SMB inlet, 50 Ω
Battery connection	2-pin connector RM 2.54 mm
Installation position	Preferably vertical (optimum alignment to the receiver antenna)
Weight (including battery)	Approx. 80 g

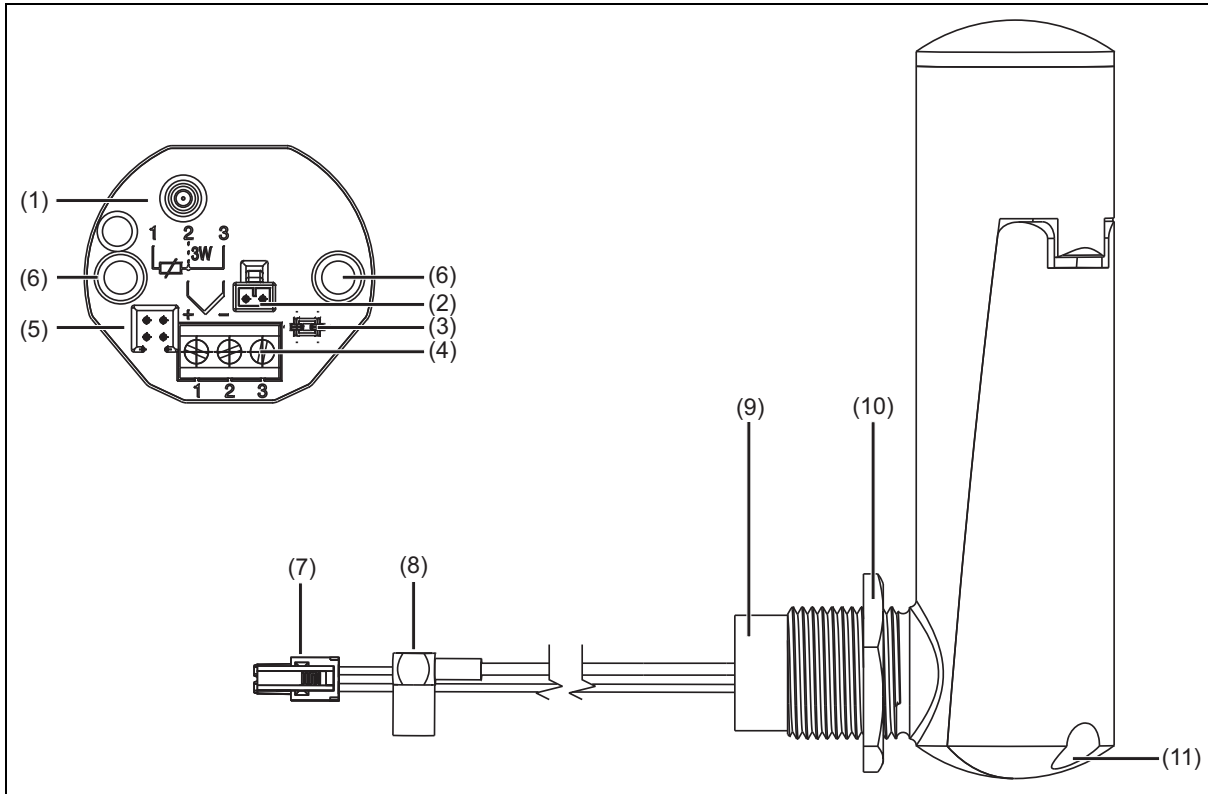
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Connection elements and connectors



- (1) SMB antenna connector (antenna connection)
- (2) Voltage supply connector (battery connection)
- (3) Cable guide for antenna cable and voltage supply
- (4) Sensor connection
- (5) Setup connector
- (6) Fastening holes for installation in the terminal head, form B
- (7) Voltage supply socket (battery connection)
- (8) SMB antenna socket (antenna connection)
- (9) Seal
- (10) Locknut
- (11) Battery lid screw

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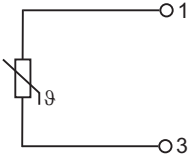
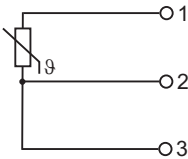

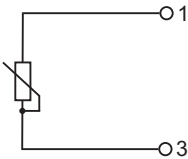
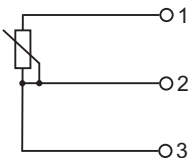
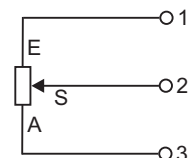
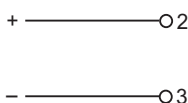
Connection diagram

The connection diagram in the data sheet provides preliminary information about the connection options. For the electrical connection, only use the installation instructions or the operating manual. The knowledge and the correct technical compliance with the safety information and warnings contained in these documents are mandatory for mounting, electrical connection, and startup as well as for safety during operation.

Voltage supply

Connection	Connector	Terminals	Symbol and terminal designation
Lithium battery, DC 3.6 V	2		

Analog input

Connection	Connector	Terminals	Symbol and terminal designation
RTD temperature probe 2-wire circuit	4	1 and 3	
RTD temperature probe 3-wire circuit	4	1 to 3	
Thermocouple	4	2 and 3	
Resistance/potentiometer 2-wire circuit	4	1 and 3	
Resistance/potentiometer 3-wire circuit	4	1 to 3	
Resistance transmitter A = Start S = Slider E = End	4	1 to 3	
Voltage (0 to 50 mV)	4	2 and 3	

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Connection	Connector	Terminals	Symbol and terminal designation
Current (0 to 20 mA) Measuring range: Voltage (0 to 50 mV) with shunt 2.5 Ω (see accessories)	4	2 and 3	

Output

Connection	Connector	Terminals	Symbol and terminal designation
Antenna connector	1		

Interface

Connection	Connector	Terminals	Symbol and terminal designation
Setup	5		

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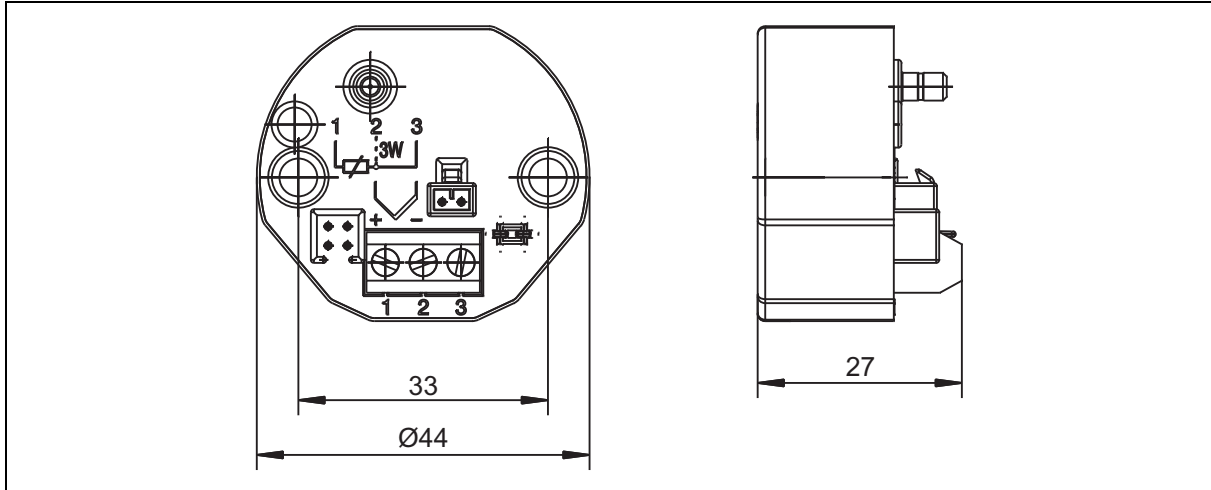
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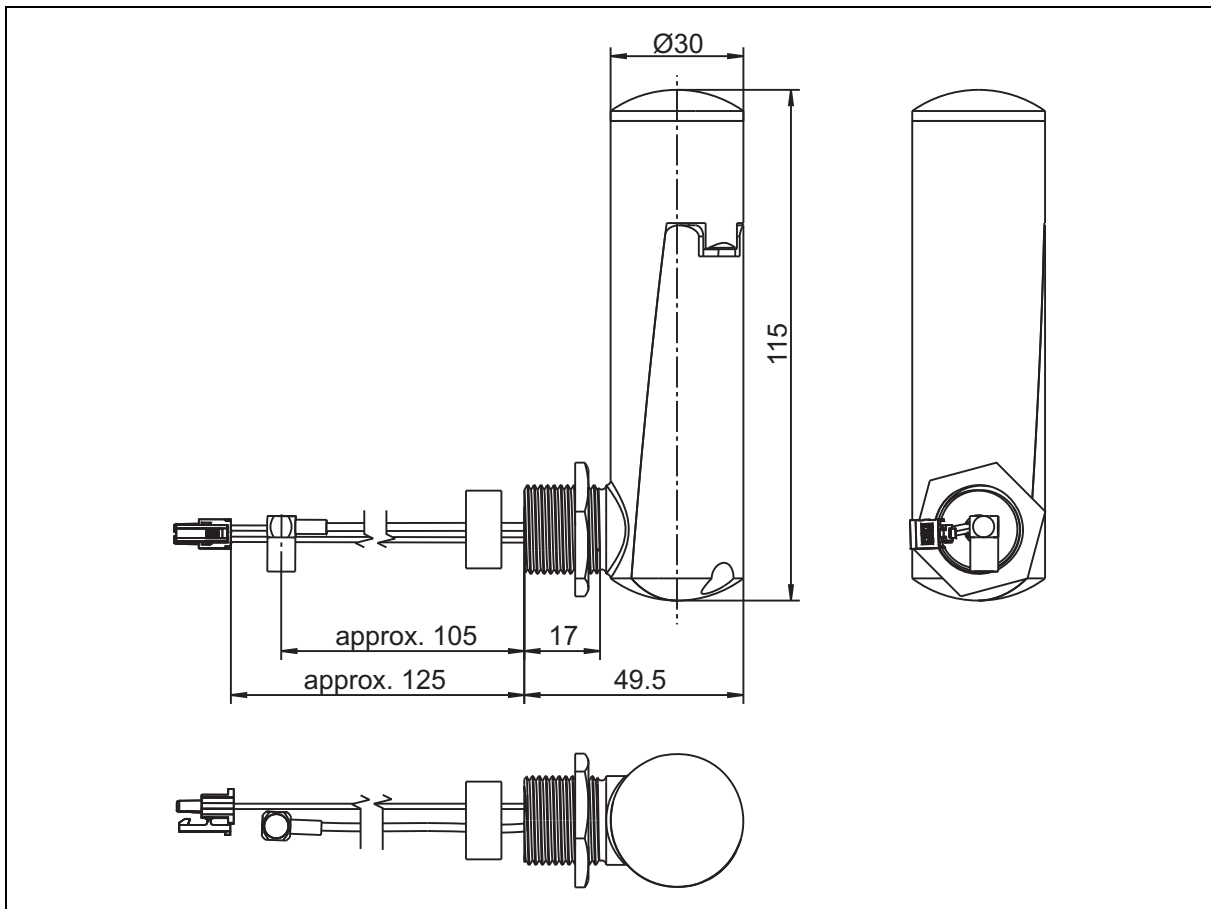


Dimensions

Transmitter



Antenna-battery housing



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Order details

(1)	Basic type
707060	JUMO Wtrans B Programmable head transmitter with wireless data transmission ^a
(2)	Input
8	Standard with default settings
9	Customer-specific programming according to specifications ^b
(3)	Output (transmitter)
10	Radio frequency 868.4 MHz (Europe)
(4)	Extra code
000	None

^a The terminal head form B is not included in the scope of delivery.

^b Please specify the transmitter ID, transmission interval, measuring range and the probe type in plain text.

Order code	<input type="text" value="(1)"/>	/	<input type="text" value="(2)"/>	-	<input type="text" value="(3)"/>	/	<input type="text" value="(4)"/>
Order example	707060	/	8	-	10	/	000

Scope of delivery

1 head transmitter in the version ordered, without terminal head, form B, including fastening material (2 screws and 2 pressure springs)
1 antenna-battery housing with plug connections protected against polarity reversal
1 lithium battery, 3.6 V, 2.2 Ah (size AA), inserted in the antenna-battery housing, ready for use
1 operating manual

Accessories

Description	Part no.
Lithium battery, 3.6 V, 2.2 Ah (size AA)	00547559
PC interface with USB/TTL converter, adapter (socket), and adapter (pins)	00456352
Setup program on CD-ROM, multilingual	00488887
Setup program including OnlineChart on CD-ROM, multilingual	00549067
OnlineChart activation	00549188
Precision resistor, 2.5 Ω / 0.1% (shunt)	00555645