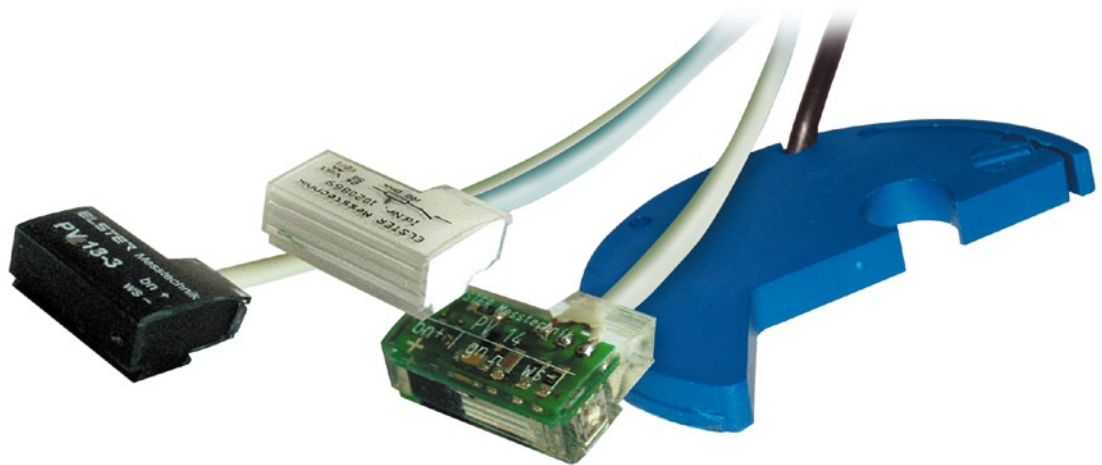


T160/T162/T163/T170/T180 Pulser

For retrofitting at accepted domestic water meter
and Woltmann meter

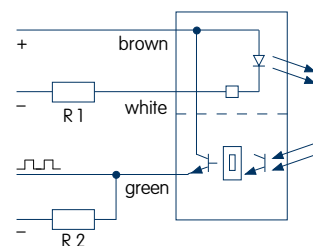


- For Woltmann meter until year of construction 2007
- For domestic water meter with KN-pulse preparation
- Assembly without breaking the calibration seal

Connection diagramm T180 (PV14)

Resistor
R1 = 1 k Ω , 1 W with $V_b = 24$ V DC
R1 = not needed with
 $V_b = 12$ V DC

Resistor
R2 = not needed if
frequency converter T510
is used
R2 = 10 k Ω if other frequency
converter is used



Technical data	T160	T162 (Reed-Disc)	T163	T170 (PV13-3)	T180 (PV14)
Princip	Reed	Reed with tamper detection	Reed	Inductive sensor	Opto sensor
Utilisation for register resp. meter	TDD Multi-Puls	M100 MNR-KN M120 MTR-KN M190 MTHR-KN V230 RNR-KN	V220 MOR-KN	TDD Multi-Puls	TDD Multi-Puls
Ordering number	1020869	—	0656135	1124346	0601558
100 litres/pulse	—	0000998	—	—	—
1 000 litres/pulse	—	0000999	—	—	—
Contact load	max. 24 Vdc max. 100 mA	max. 24 Vdc max. 50 mA	max. 24 Vdc max. 50 mA	8 ... 12 V standby current <0.7 mA operating current >3 mA NAMUR DIN 19234	max. 24 Vdc max. 25 mA
Pulse length (attached)	—	—	—	9 ms	—
Output resistance	—	—	—	—	<15 ohm/core
Protective resistance	100 Ohm	100 Ohm	—	—	—
Protection class	IP68	IP68	IP68	IP68	IP68
Cable diameter	2 x 0.25 m ²	2 x 0.14 m ²	2 x 0.14 m ²	2 x 0.25 m ²	3 x 0.25 m ²
length	2 m	1 m	1 m	2 m	2 m
Connection	any	pulse contact: brown – white tamper contact: green – white	any	– white + brown	– white + brown └┐ green
Temperature range °C	-10 ... +90	0 ... +70	0 ... +70	0 ... +70	-10 ... +70
Miscellaneous	Explosion protection applicable in intrinsically safe electric circuits zone 1	Explosion protection applicable in intrinsically safe electric circuits zone 1	Explosion protection applicable in intrinsically safe electric circuits zone 1		

Pulse sequences	Multi-Puls/TDD registers				-KN registers
Nominal size DN mm	15 ... 40	40 ... 125	150 ... 300	400 ... 500	15 ... 50
Meter size / nominal flow rate Q_n m ³ /h	1 ... 10	15 ... 100	150 ... 600	1 000 ... 1 500	1.5 ... 15
T 160 litres/pulse	100/1 1 000/1	100/1 1 000/1	1 000/1 10 000/1	10 000/1 100 000/1	— —
T 162 litres/pulse	— —	— —	— —	— —	100/1 1 000/1
T 163 litres/pulse	— — — —	— — — —	— — — —	— — — —	1/1 10/1 100/1 1 000/1
T 170 litres/pulse	0.1/1	1/1	10/1	100/1	—
T 180 litres/pulse	0.1/1	1/1	10/1	100/1	—

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Pulser_D_14.01e / 07.08

Changes without notice

