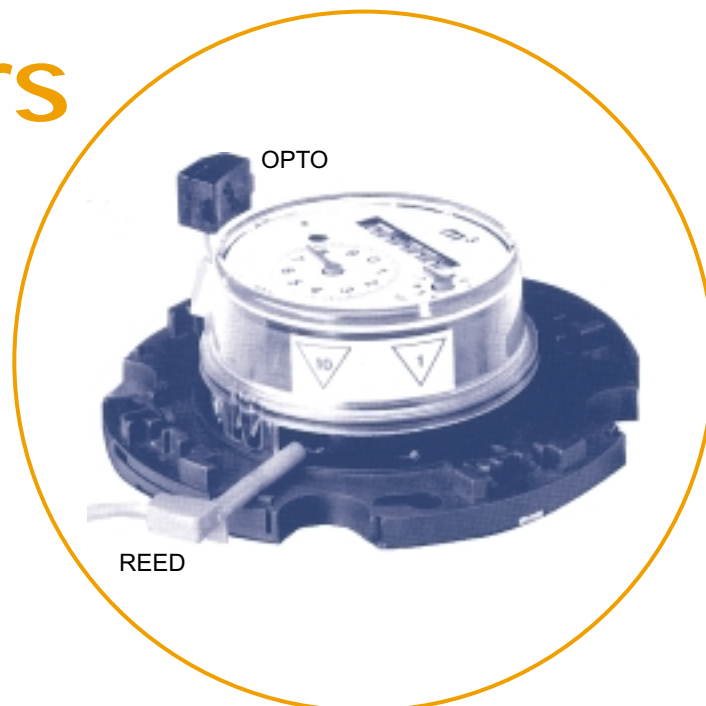


REED/ OPTO Pulsers

for cold and hot water meters
of the Cosmos II family



Main Features

Simple installation

Pulsers can be fitted without breaking the original verification mark

OPTO with forward/reverse flow identification

Two different pulse values for REED and OPTO possible

Available REED pulsers

R 01 and R 011	for cold water meters up to 40 °C
R 02 and R 022	for hot water meters up to 130 °C
R 01 and R 02	for remote counters and batching systems
R 011 and R 022	for heat meters

Available OPTO pulsers

OP 01 and OP 03	for cold water meters up to 40 °C
OP 02 and OP 04	for hot water meters up to 130 °C
OP 01 and OP 02	for flow indication and flow control
OP 03 and OP 04	for remote counters and batching systems
OP 02/EX	for use in areas where there is a risk of explosion

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 **SENSUS**
METERING SYSTEMS

Performance Data

Switching component	reed switch	
Contact protection R 01/02	Surge limiting resistor and voltage limiting varistor (VDR) Maximum voltage $U_{max} = 48 \text{ V AC/DC}$ Maximum current $I_{max} = 0.2 \text{ A}$ Maximum power $P_{max} = 4 \text{ W}$	
Contact protection R 011 / R 022	Surge limiting resistor Maximum voltage $U_{max} = 48 \text{ V AC/DC}$ Maximum current $I_{max} = 0.2 (0.05) \text{ A}$ Maximum power $P_{max} = 4 \text{ W}$	
Pulse duration	Depends on flow in the meter, at stop, continuous signal possible	
Protection	IP 66 (DIN 40050)	
Temperature range	R 01/011:	ambient temperature $t_{amb} < 70 \text{ }^\circ\text{C}$ fluid temperature $t_m < 50 \text{ }^\circ\text{C}$
	R 02/022:	ambient temperature $t_{amb} < 70 \text{ }^\circ\text{C}$ fluid temperature $t_m < 150 \text{ }^\circ\text{C}$
Connection cable	Length 3 m	

Pulse values

Diameter of meter	DN	50 ... 125 1 pulse $\hat{=}$...	150 ... 250 1 pulse $\hat{=}$...	300 1 pulse $\hat{=}$...	400 ... 800 1 pulse $\hat{=}$...
Cold water meter	Standard	1 m ³ 0.1 m ³	10 m ³ 1 m ³	100 m ³ 10 m ³	100 m ³ 10 m ³
	on request	0.25 m ³ 0.025 m ³	2.5 m ³ 0.25 m ³	25 m ³ 2.5 m ³	----- -----
Hot water meter	Standard	0.25 m ³ 0.1 m ³	2.5 m ³ 1 m ³	25 m ³ 10 m ³	----- -----



Performance Data

Switching component	IR reflex barrier acc. to DIN 19234	
Electrical specification	Supply voltage	8.2 V DC
	Current with reflection	< 1.2 mA
	Current without reflection	> 2.1 mA
	Forward/reverse identification integrated by an additional current barrier at 1.5 mA	
Pulse duration	Depends on flow in the meter, at stop, continuous signal possible	
Protection	IP 65 (DIN 40050)	
Temperature range	OP 01/03 :	ambient temperature t_{amb} < 70 °C fluid temperature t_m < 50 °C
	OP 02/04 :	ambient temperature t_{amb} < 70 °C fluid temperature t_m < 150 °C
Connection cable	Length 3 m	

Pulse values

Diameter of meter	DN	50 ... 125 1 pulse $\hat{=}$...	150 ... 250 1 pulse $\hat{=}$...	300 1 pulse $\hat{=}$...	400 ... 800 1 pulse $\hat{=}$...
Cold water meter	OP 01	0.001 m ³	0.010 m ³	0.100 m ³	0.100 m ³
	OP 03	0.010 m ³	0.100 m ³	1.000 m ³	1.000 m ³
Hot water meter	OP 02	0.001 m ³	0.010 m ³	0.100 m ³	-----
	OP 04	0.010 m ³	0.100 m ³	1.000 m ³	-----



Wiring Example for REED Pulsar

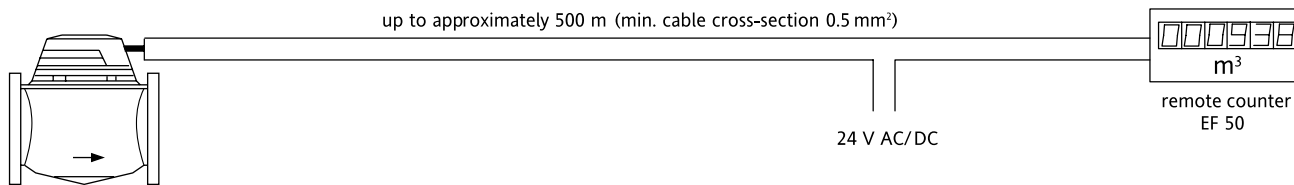


Figure 1

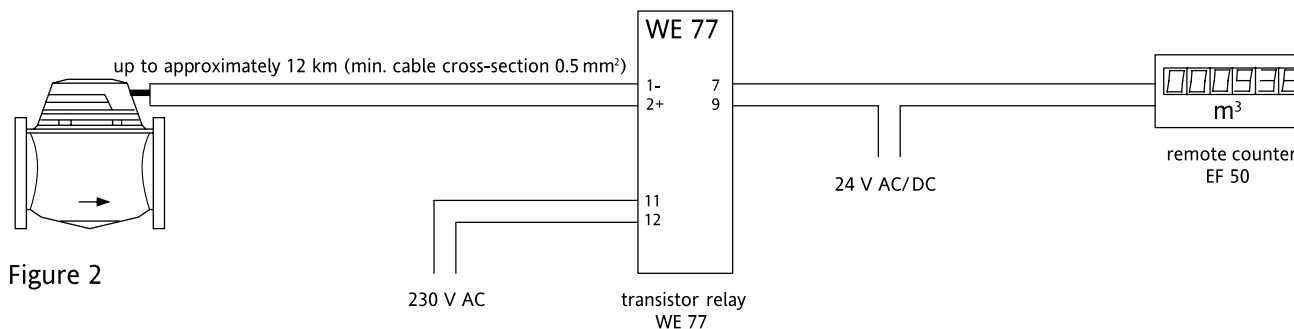


Figure 2

Wiring Example for OPTO Pulsar

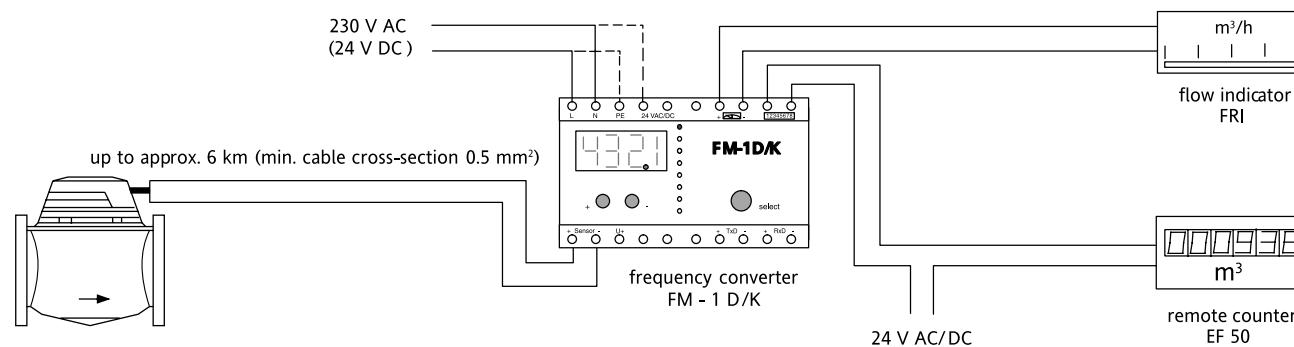


Figure 3

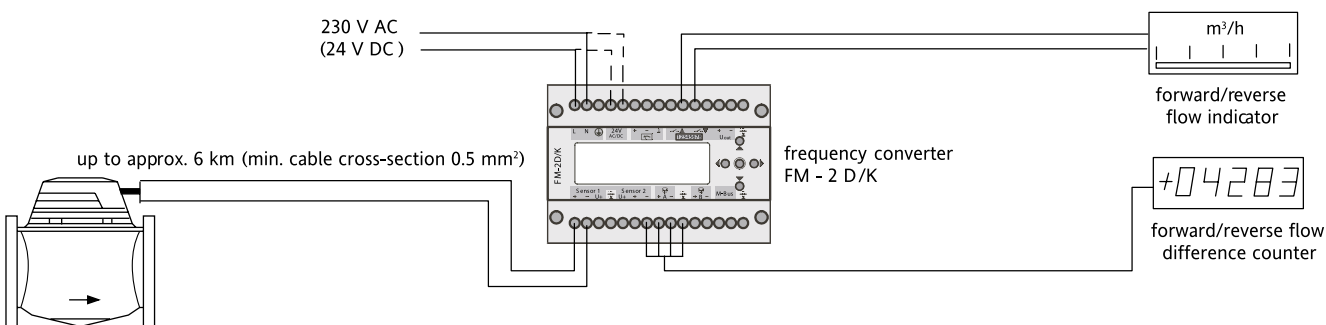


Figure 4