

Installation Manual

NK and NO transmitters for industrial water meters (T50; IP65) in the -NKOP version;

NK transmitters for industrial water meters (T50; IP68) in the -NKP version and type WI flow meters (T50; IP65 and/or IP68) in the -NKP version

NKOP – water meter ready for the installation of reed relay and/or optoelectronic pulse transmitters

NKP – water meter ready for the installation of reed relay pulse transmitters

NK – reed relay pulse transmitter

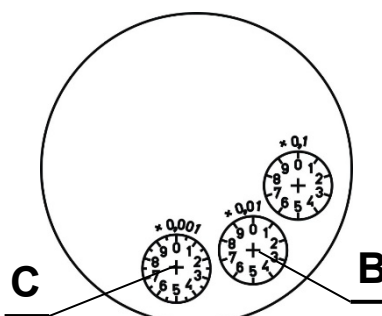
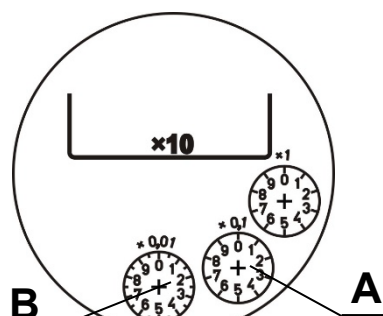
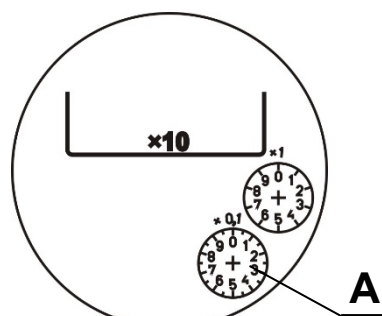
NO – optoelectronic pulse transmitter

ISO 9001

PN-N-18001

ISO 14001

See Table 1. Positioning of the single-magnet fixture at specific indicators of the counter front plate and the corresponding NK transmitter pulse rates

Water meter / flow meter size		
DN40 to 125	DN $\geq$ 150-250	DN300
		
x 0.1 indicator location: pulse rate -> 1000 L/pulse x 0.01 indicator location: pulse rate -> 100 L/pulse x 0.001 indicator location: pulse rate -> 10 L/pulse		

1. This step-by-step procedure for the installation of the NK and/or NO transmitter in industrial water meters (T50; IP65) type MWN; MP; MK; JS Impero in the -NKOP version or the NK transmitter in the -NKP version (this applies to the WI-03-NKP flow meter) shown below with the **MWN40-NKOP (10 L = 1 pulse) water meter:**



MWN40-NKOP water meter (NK and/or NO transmitter installation ready). The IP65-rated rotating counter features a single-magnet fixture installed at the x 0.001 position -> pulse rate at 10 L = 1 pulse.

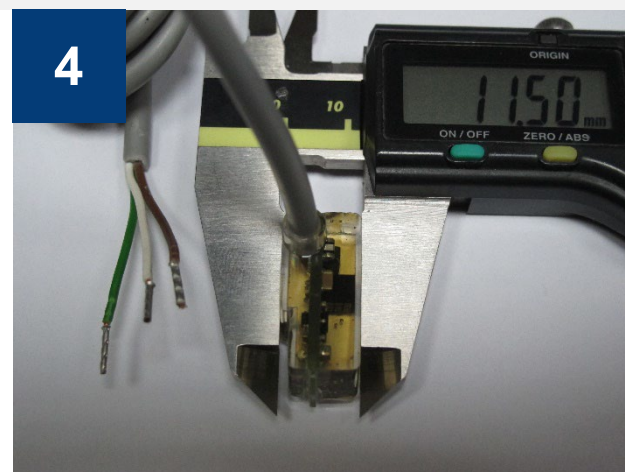


Remove the two Allen bolts and remove the counter guard assy.

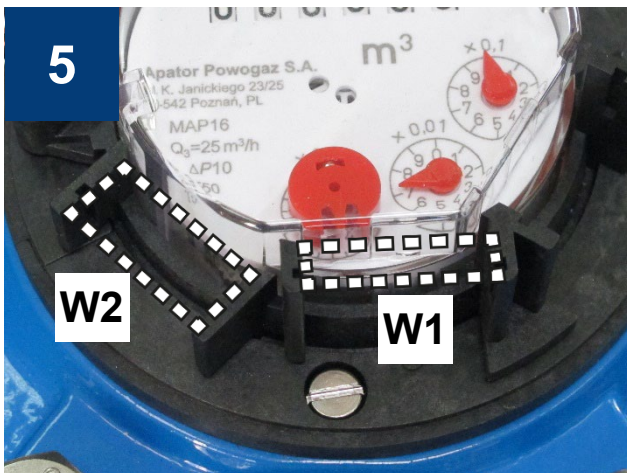
Install the NK reed relay pulse transmitter and/or the NO optoelectronic pulse transmitter. These transmitters are dedicated to industrial water meters (T50; IP65).



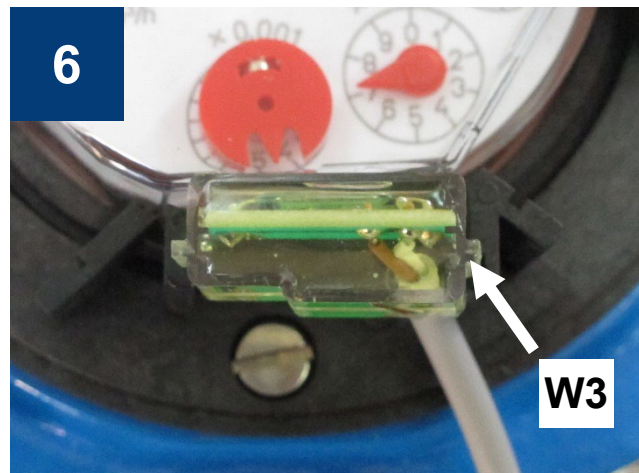
NK transmitters, P/N **31-8027-010000**, width $b = 11.5$ mm for IP65-rated water meters. Specification: $U < 30\text{VDC}$; $I_s < (\text{max } 100 \text{ mA})$; cable: YTTY $2 \times 0.14 \text{ mm}^2$, $L = 2 \text{ m}$



NO transmitter, P/N **31-7112-010000**, width $b = 11.5$ mm for IP65-rated water meters. Specification: $U_s = -5$ to 24VDC ; NPN OC; $I_s < 30 \text{ mA}$ ($I = 0 \text{ mA}$); YTTY cable $3 \times 0.25 \text{ mm}^2$ $L = 2 \text{ m}$



View of the counter mechanism installed in the retaining ring, with the counter guard removed.
View W1: the installation location of the NK transmitter assembly. The magnet fixture is installed at the $\times 0.001$ (DN40) indicator to enable a pulse rate of $10 L = 1$ pulse.
View W2: the installation location of the NO transmitter directly at the reflex bushing. The pulse rate is as specified in the Apator Powogaz product catalogue.

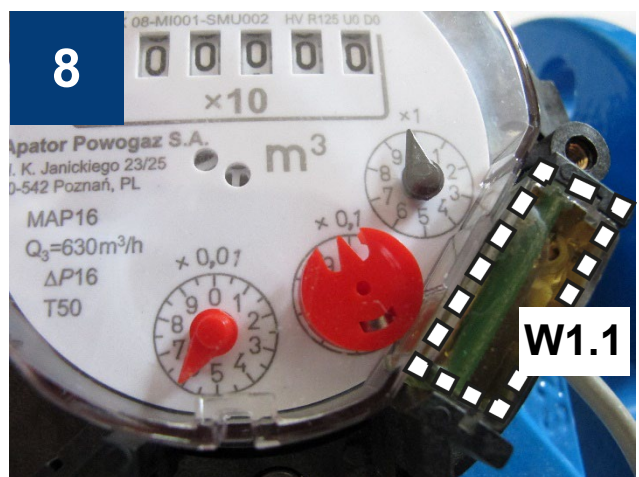
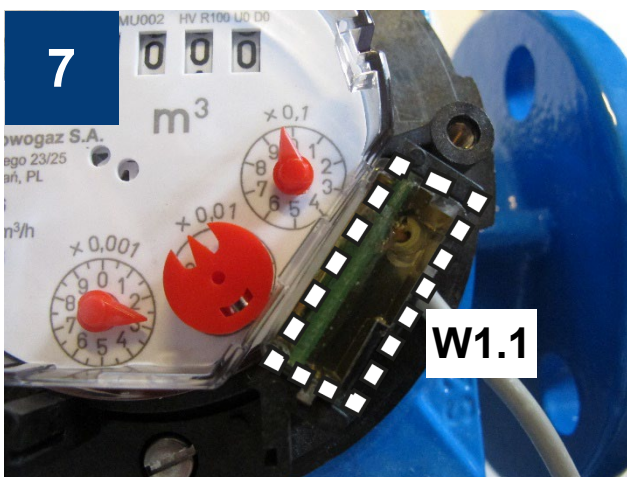


Installing the NK transmitter

Insert the NK transmitter into the retaining ring guide slot (see view W1) in a downward motion and with the two-core cable downwards.

Note:

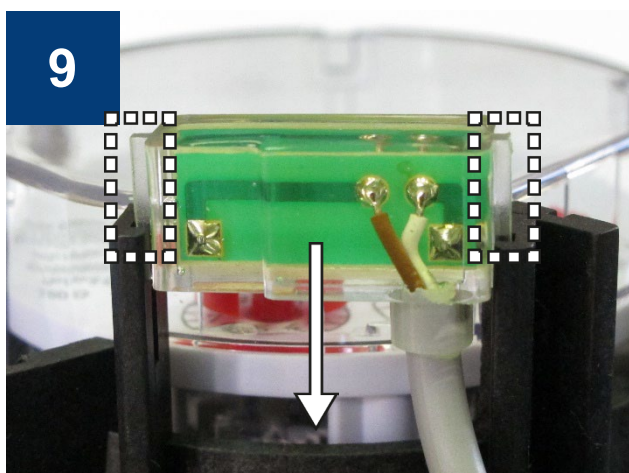
The guide slot for the NK transmitter (see view W3) is wider on the right side than on the left side to force a single correct position of the NK transmitter in the guide piece.



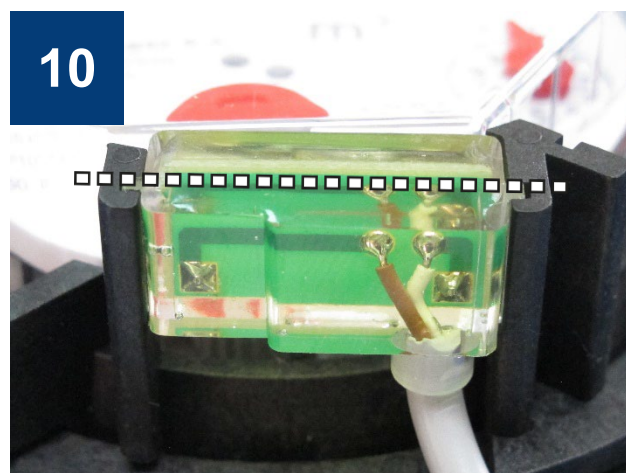
Note:

The NK transmitter assembly can be installed in the other slot (see view W1.1 above). The pulse weight of the transmitter varies with the magnet fixture position:

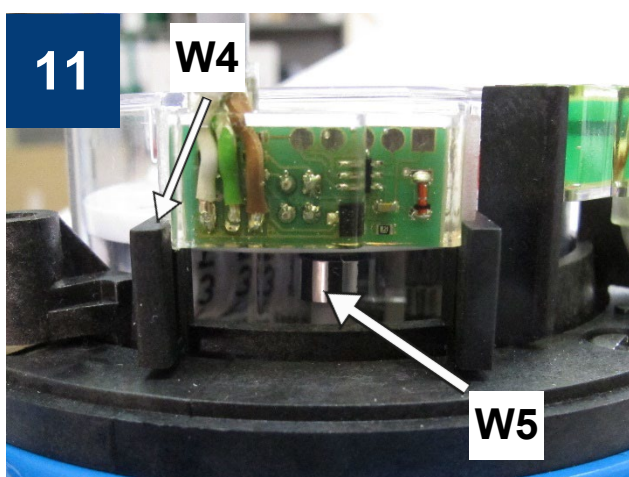
- the $\times 0.01$ indicator position (DN50-125): pulse rate at $100 L = 1$ pulse
- the $\times 0.1$ indicator position (DN150-300): pulse rate at $1000 L = 1$ pulse



Side view of the NK transmitter installation process

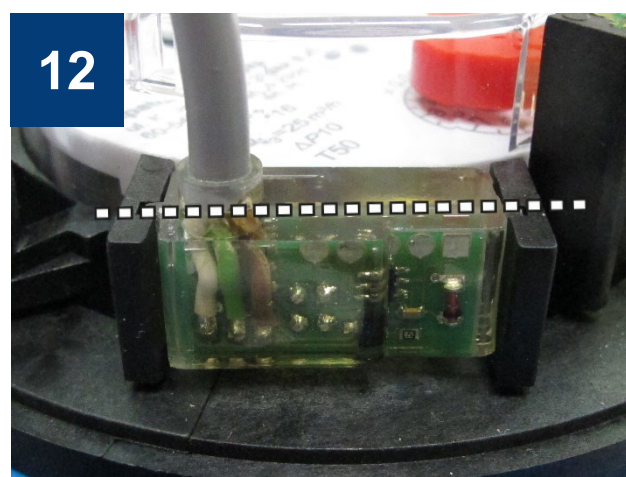


Complete the NK transmitter installation by engaging the NK transmitter into the guide piece to stop. The top of the NK transmitter should now be level with the top of the guide piece.



Installing the NO transmitter

Slide the NO transmitter (with the three-core cable upwards) in the installation slot W2 in a downward motion. The guide W4 slot is wider on the left than on the right side to force a single correct position of the transmitter in the guide piece. View W5 shows the reflex bushing.



Complete the NO transmitter installation by engaging the NO transmitter into the guide piece to stop. The top of the NK transmitter should now be level with the top of the guide piece.

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Install the counter guard assembly on the counter mechanism with the transmitter(s) installed so the transmitter cables go out of the counter guard via the respective cable entries (see view W6). The NK transmitter two-core cable should go under the "10 L = 1 pulse" label. Secure the counter guard with the two Allen bolts.

This concludes the installation of the NK and NO transmitters.

Note:

When installing the counter guard, verify that the transmitter cables are aligned with and below the cable entry under the counter guard (see view W6); otherwise the cable insulation will be pinched and fail!

Note:

With other water meter sizes, the magnet fixture position at the indicators varies as follows: x 0.01 (DN50-125) pulse rate at 100 L = 1 pulse; x 0.1 (DN150-25) or x 0.1 (DN300 twin indicator front plate) pulse rate at 1000 L = 1 pulse. In this case, follow the installation sequence example for the MWN40-NKOP water meter (10 L = 1 pulse).

2. This step-by-step procedure for the installation of the NK transmitter in industrial water meters (T50; IP68) type MWN; MP; MK; JS Impero in the -NKP version (this applies to the WI-04-NKP flow meter) shown below with the MWN50-NKP (100 L = 1 pulse) water meter:

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The MWN50-NKP water meter (NK transmitter installation ready); IP68-rated rotating counter features a single-magnet fixture installed at the x 0.01 position -> pulse rate at 100 L = 1 pulse.

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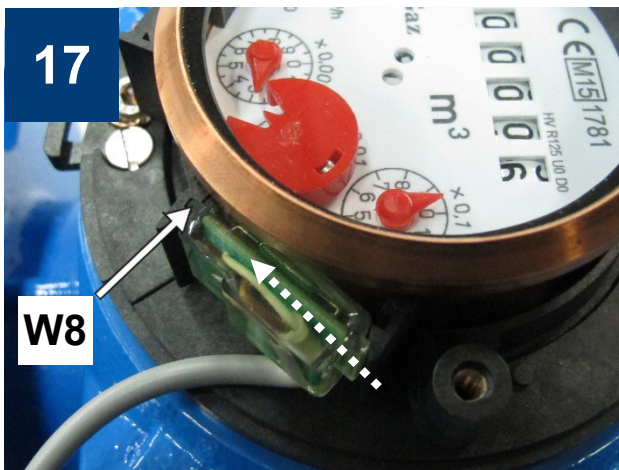


Cut the wire and remove the lead tamper seal with the Powogaz mark "KJ3".
 Remove the two Allen bolts which secure the counter guard. Remove the counter guard; note that the bolt at the guard cover lug W7 has the cap head designed to accommodate a lead tamper seal wire.

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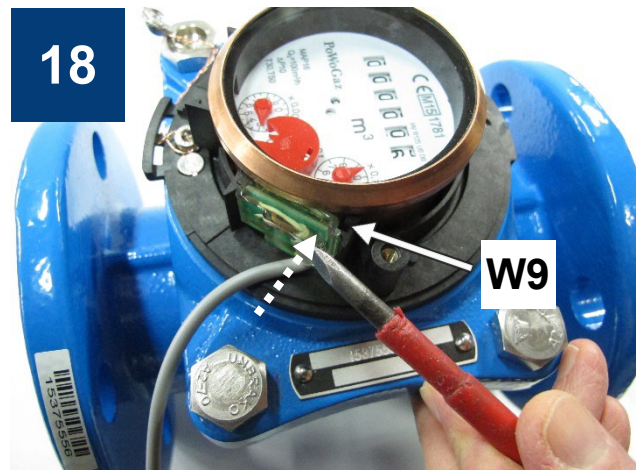
Install the NK reed relay pulse transmitter, P/N **31-8027-050000**, width $b = 9.2 \text{ mm}$, intended for water meters and flow transducers (T50 and IP68).
 Specification: $U < 24\text{V}$; $I_s < (\text{max } 100 \text{ mA})$; cable: YTLY $2 \times 0.14 \text{ mm}^2$, $L = 2 \text{ m}$.



Installing the NK transmitter

Insert one end of the NK transmitter (with the two-core cable downwards, $b = 9.41 \text{ mm}$) into the guide slot (see view W8). Choose the installation location (the guide piece) so that the NK transmitter range includes the magnet fixture (shown in red) at the $\times 0.01$ indicator. The guide slot is wider on the left than on the right side to force a single correct position of the transmitter in the guide piece.

Note: Do not insert the transmitter from the top!



Press in the other end of the transmitter in the direction shown with the arrowhead pointing to the driver bit, into the other guide slot (see view W9).



View of the NK transmitter installed in the position to transmit the pulses from the magnet fixture installed at the $\times 0.01$ indicator position (DN50-125): pulse rate at $100 \text{ L} = 1 \text{ pulse}$. If the magnet fixture is located at the $\times 0.1$ indicator position (DN150-250) or the $\times 0.1$ indicator position (DN300 twin indicator front plate), the pulse rate is $1000 \text{ L} = 1 \text{ pulse}$.

Note:

The NK transmitter can be secured in the slot indicated by the arrow (see view W10) at the x 0.001 indicator at which the magnet fixture can be installed (DN40), providing a pulse rate of 10 L = 1 pulse.



Install the counter guard assembly on the counter mechanism with the transmitter installed so the transmitter cable goes out of the counter guard via the respective cable entry at the "100 L = 1 pulse" label. Secure the counter guard with the two Allen bolts. Install the Allen bolt for the lead tamper seal wire in the hole next to the guard cover lug W7 in the counter guard to facilitate sealing of the water meter.

This concludes the installation of the NK transmitter.

Note:

When installing the counter guard, verify that the transmitter cable is aligned under the counter guard and passes through the cable entry in order to prevent damage and failure of the cable insulation!