4 OPERATION

4.1 Normal operation

The W*02 is ready to use and does not require any special settings.

If changes of the K factor for the analogue output or of the operational mode are required, please refer to chapter 4.2.4.

4.1.1 Using the 4-20mA loop only

The W*02 operates as a passive 4 – 20mA sensor with 2 wire connection. Connect the W*02 according to the figure below.

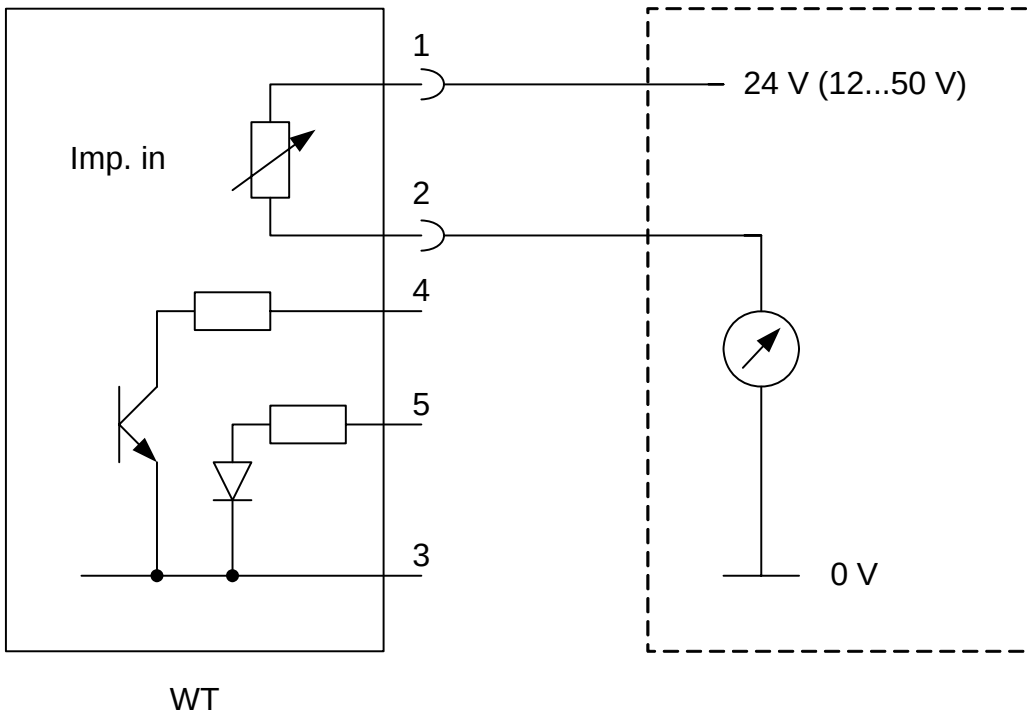

Fig. 3: Electrical connections, 4-20mA only

NOTE
For this mode of operation the analogue mode must be set to “Input Frequency”. This is the default setting. The frequency mode can be set to “OFF”.

4.1.2 Using the 4-20mA loop and the digital output

In this mode the W*02 operates as a passive 4 – 20mA sensor with auxiliary optically isolated open collector output.

Connect the W*02 according to the figure below.

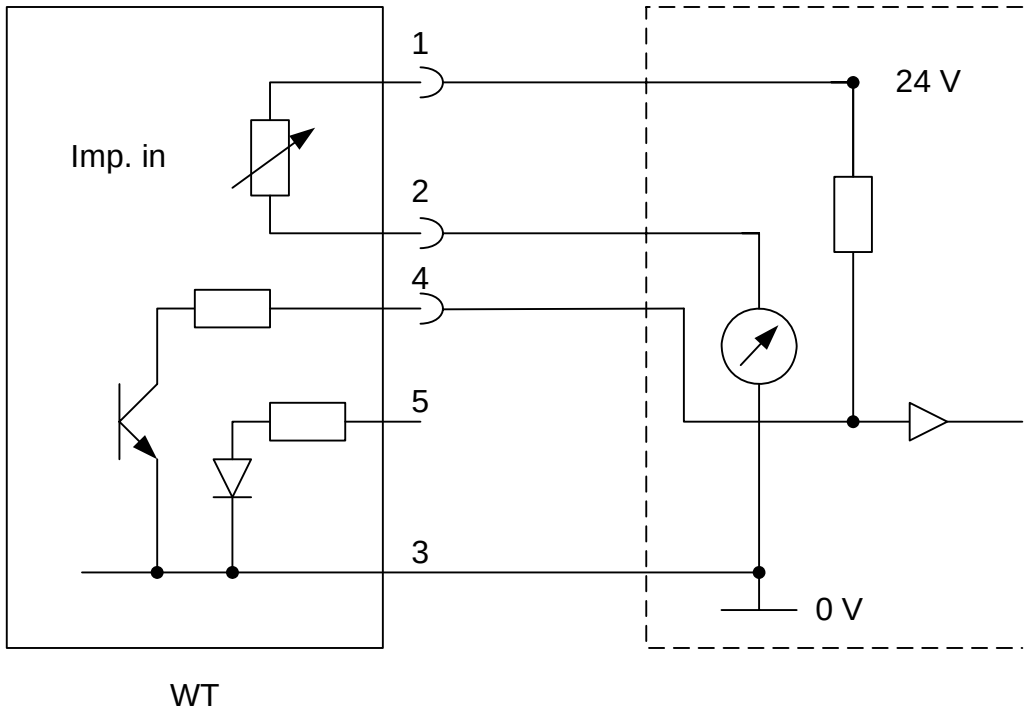

Fig. 4: Electrical connections 4-20 mA and digital output

The following modes are possible for the digital output:

Input Frequency:

The input signal is transformed to a square signal and fed to the digital output (pin 4).

Switch Normally open:

The output is high (open) at low frequencies. As the input frequency reaches fth + fhysteresis the transistor becomes conducting and the output goes low.

As soon as the input frequency drops below fth – fhysteresis the output becomes non conducting again and goes high, provided that an external pull up is connected.

Switch Normally closed:

The output is low (conducting) at low frequencies. As the input frequency reaches fth + fhysteresis the transistor becomes non conducting and goes high, provided that an external pull up is connected.

As soon as the input frequency drops below fth – fhysteresis the output becomes conducting again and the output goes low. For changing the mode refer to chapter 4.2.4.

4.1.3 Using the digital output only

If only a digital output is required, connect the W*02 according to the figure below.

For the description of the digital output modes refer to chapter 4.2.4.

For best performance and lowest power requirements, the analogue mode can be set to “4 mA”. In that mode the W*02 draws a supply current of 4 mA independent of the input frequency.

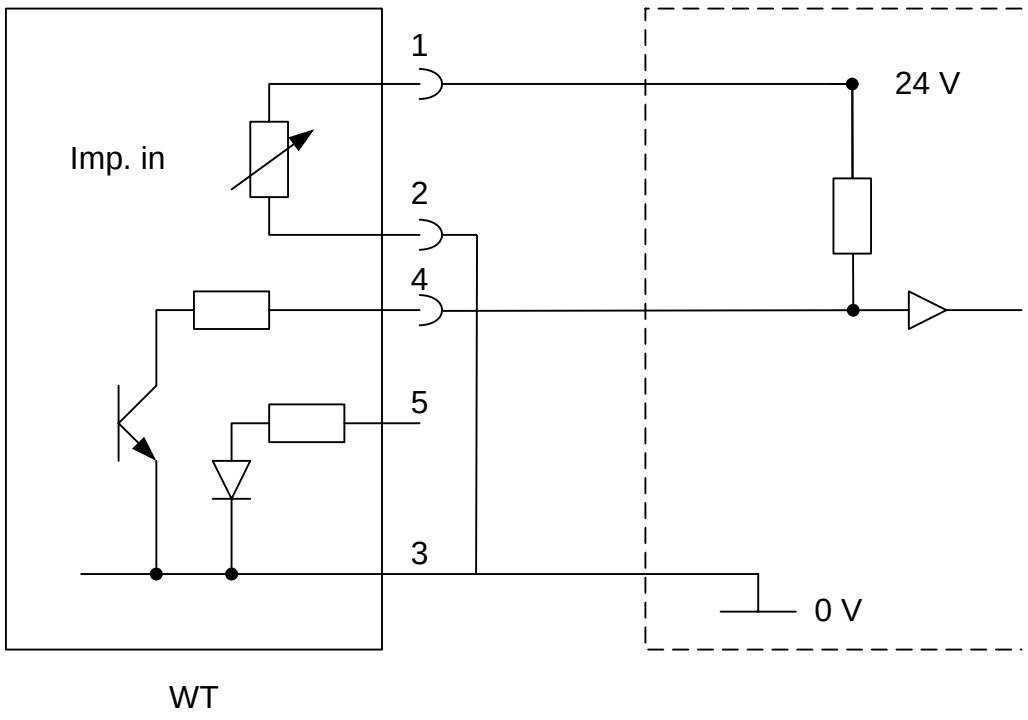

Fig. 5: Electrical connections digital output only

4.2 Remote Control

The W*02 has a built in interface which uses the frequency output and pin 5 of the connector for communication.

Communication with a computer is easily implemented by using the USB converter CON.USB.WT and the remote SW KEM EasyControl.

NOTE
In remote mode the digital output is used for communication and does not provide the frequency output or switch functionality!