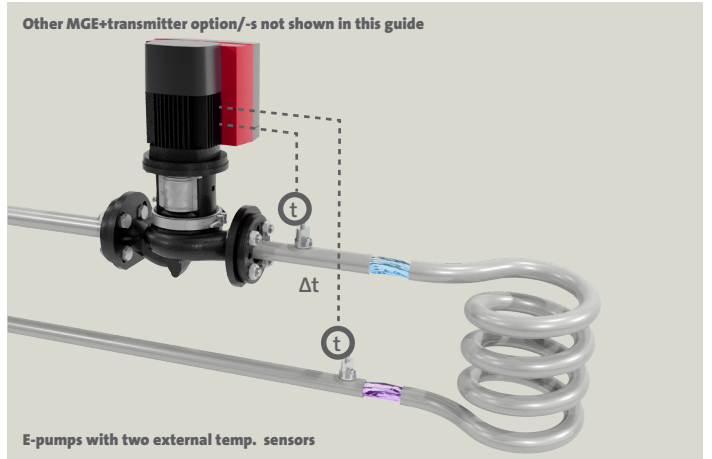
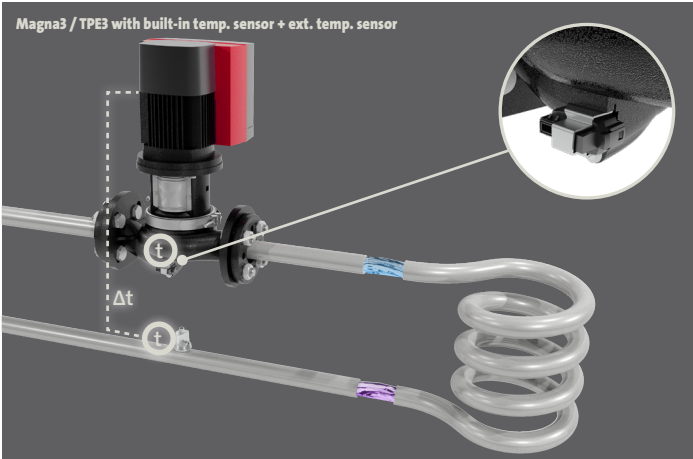


MAGNA3 & TPE3 with RPI+T2

Heatmetering Installation Guide



English (GB) Installation Guide

Original installation instructions of RPI T2 with MAGNA3

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1. Introduction

MAGNA3 and TPE3 are an innovative member of the Grundfos family of quality circulator pumps.

MAGNA3 and TPE3 offers a wide range of control modes and system information.

And by adding a separate pressure or temperature sensor in the installation, it opens up for even more control modes and system information.

Grundfos RPI T2 is ideally suited as secondary temperature sensor to MAGNA3 or TPE3 in order to enable functions such as:

- Heat Energy Metering
- Constant temperature control

Or by using the pressure output to the MAGNA3 and TPE3, in order to enable the pump to function in constant pressure mode.

This document describes how to wire up the RPI T2 sensor in MAGNA3 and TPE3 plus commissioning using MAGNA3, TPE3 and GRUNDFOS GO.

2. Specifications

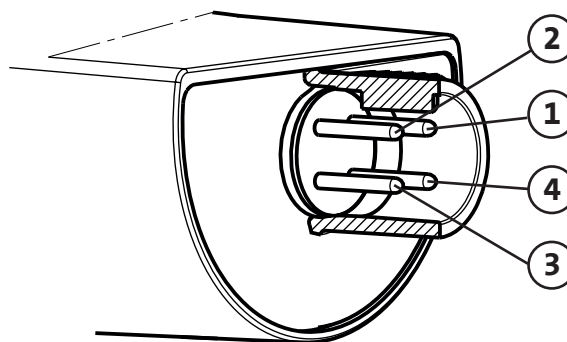
Pressure	
Measuring range	0 - 16.0 bar
Accuracy ($\pm 1\sigma$), 0 → 80 °C	$\pm 2\%$ FS
Accuracy ($\pm 1\sigma$), -30 → +120 °C	$\pm 2.5\%$ FS
Response time	< 100 ms (typical 50 ms)
Resolution	1/1000 FS
Temperature readout	
Measuring range	-10 → 120 °C
Accuracy ($\pm 1\sigma$), -10 → 15 and 90 → 120 °C	$\pm 1^\circ\text{C}$
Accuracy ($\pm 1\sigma$), 15 → 90 °C	$\pm 0.5^\circ\text{C}$
Response time for transmitter electronics	< 100 ms (typical 50 ms)
Resolution	0.1 °C

Media and environment	
Media types	Liquids, gasses and air compatible with wetted materials
Media temperature (operation)	-30 → 120 °C
Ambient air temperature (operation)	-25 → 60 °C
Storage temperature	-55 → 70 °C
Humidity	0 - 95 % RH, non-condensing
Maximum system pressure	30 bar
System burst pressure	40 bar
Power supply	16.6 - 30 VDC
Output signals	0 - 10 VDC
- cut off	10.5 VDC
Power consumption	Max. 300 mW
Load impedance	Min. 10 kΩ
Transmitter materials	
Measuring element	Silicon-based MEMS transmitter
Packing material	EPDM rubber
Transmitter housing	Stainless steel AISI 316 L 1.4404
Wetted materials	EPDM rubber, Stainless steel AISI 316 L 1.4404, Corrosion-resistant coating
Environmental standards	
Enclosure class	IP67
Temperature cycling	IEC 68-2-14
Vibration (non-destructive)	20-2000 Hz, 10 G, 4 h
Electromagnetic compat.	EN 61326-1
Grundfos product number	9835521

3. Electrical installation

3.1 RPI T2 wiring

RPI T2 is a 4-wire combined temperature and pressure sensor, of which only the temperature output is used in MAGNA3.

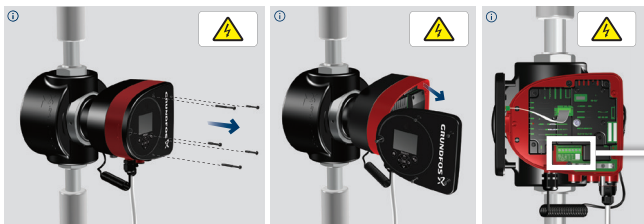


PIN	1	2	3	4
Wire color	Brown	Grey	Blue	Black
Output 2 x 0 to 10 V	+	Pressure signal	-*	Temperature signal

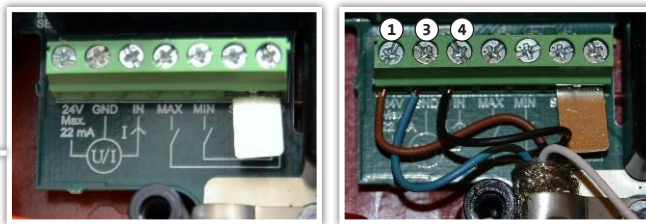
- * Common ground for both pressure and temperature signal.
- * Power supply (screened cable): SELV or PELV.

3.2 MAGNA3 connecting the wires from the RPI T2

A. Locate the terminal block in the control box

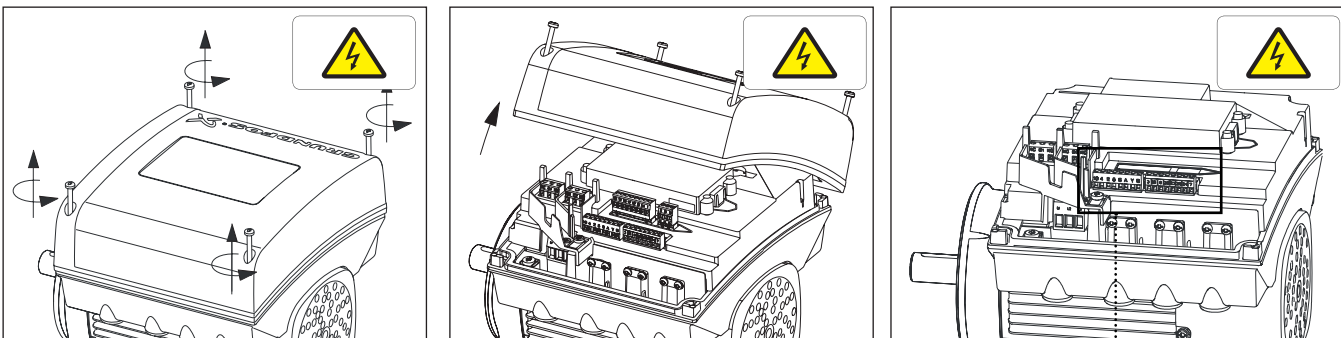


B. Connect the wires as shown (shield connected to cable strain relief)

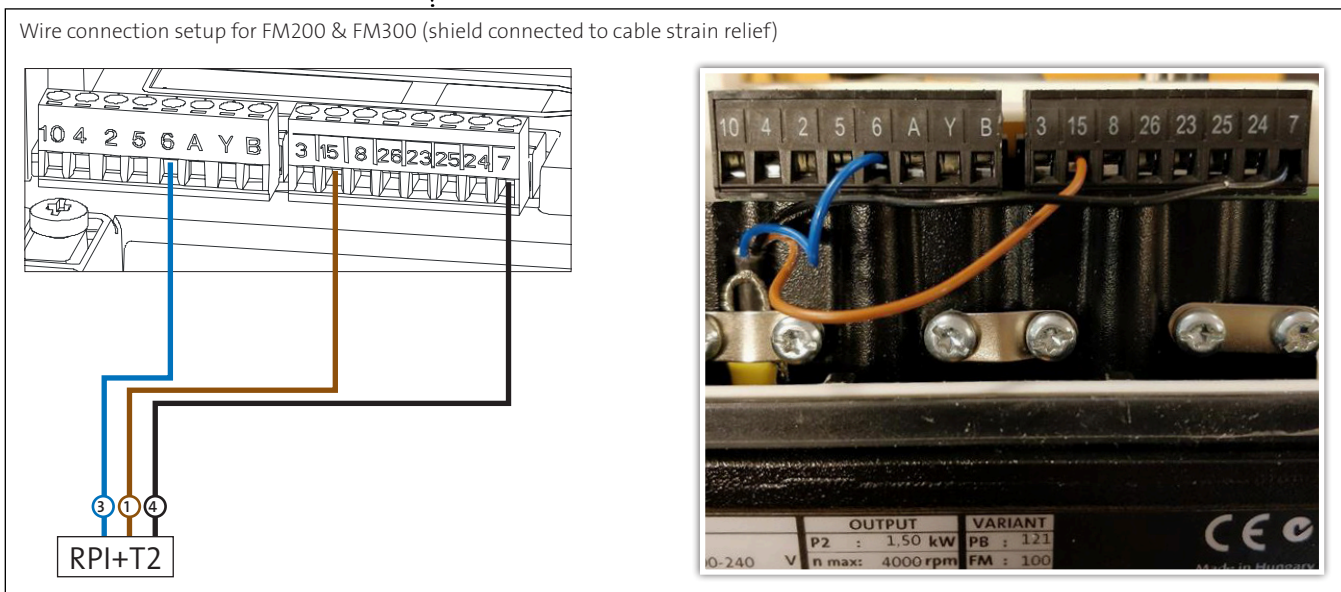


3.3 TPE connecting the wires from the RPI T2

A. Locate the terminal block in the control box

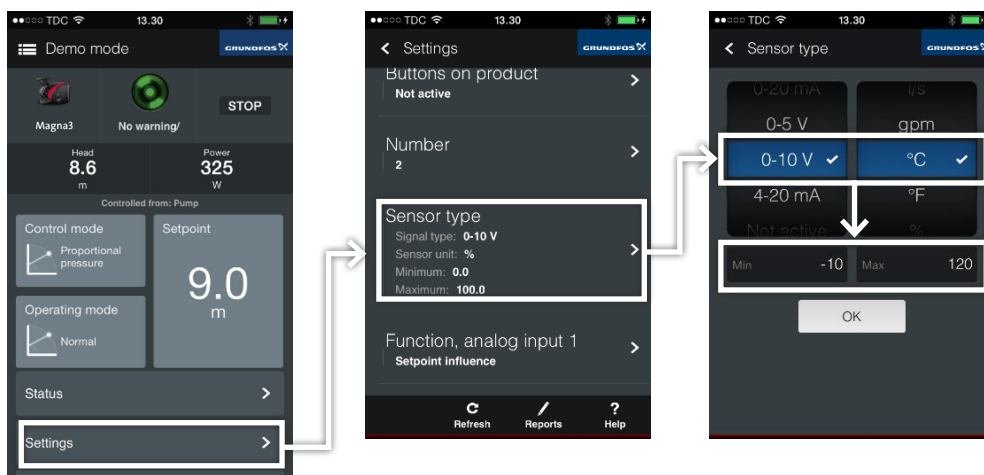


B. Connect the wires as shown



4. Setup

4.1 Configuring the analog input using Grundfos GO



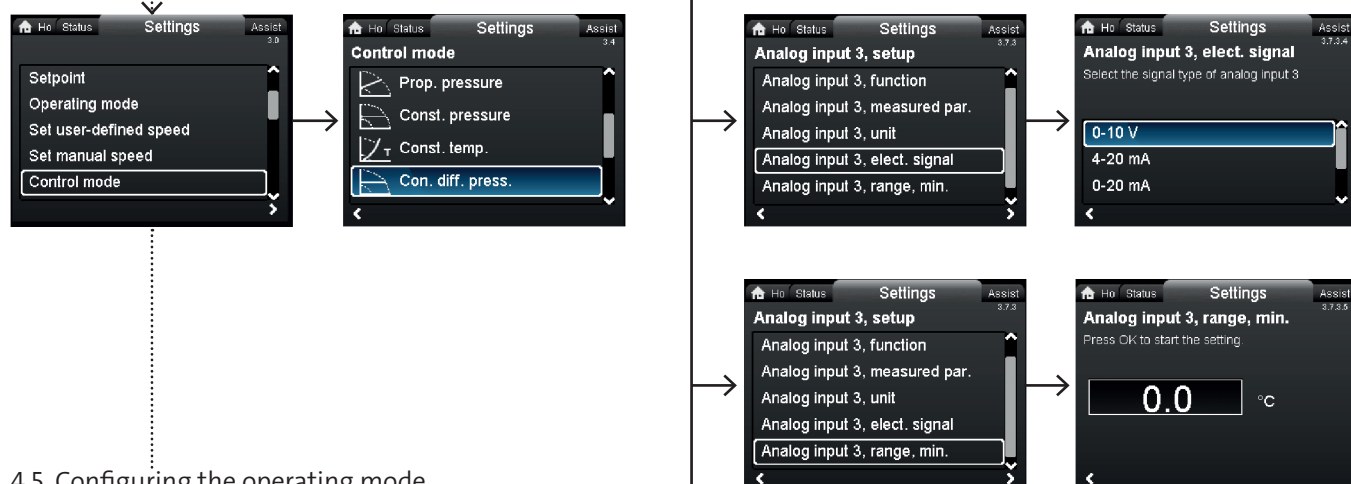
4.2 Configuring the analog input using MAGNA3



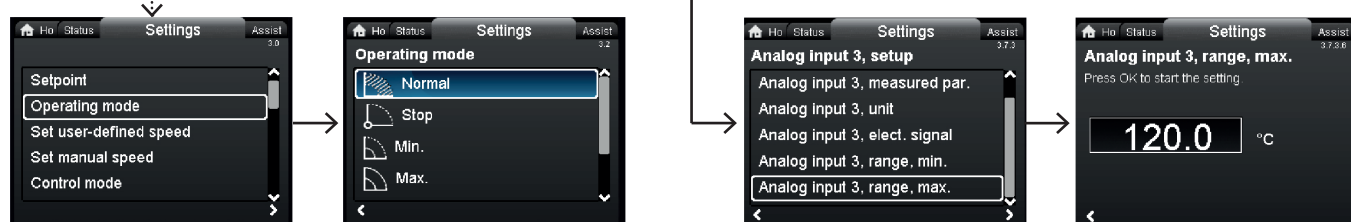
4.3 Configuring the analog input using TPE3



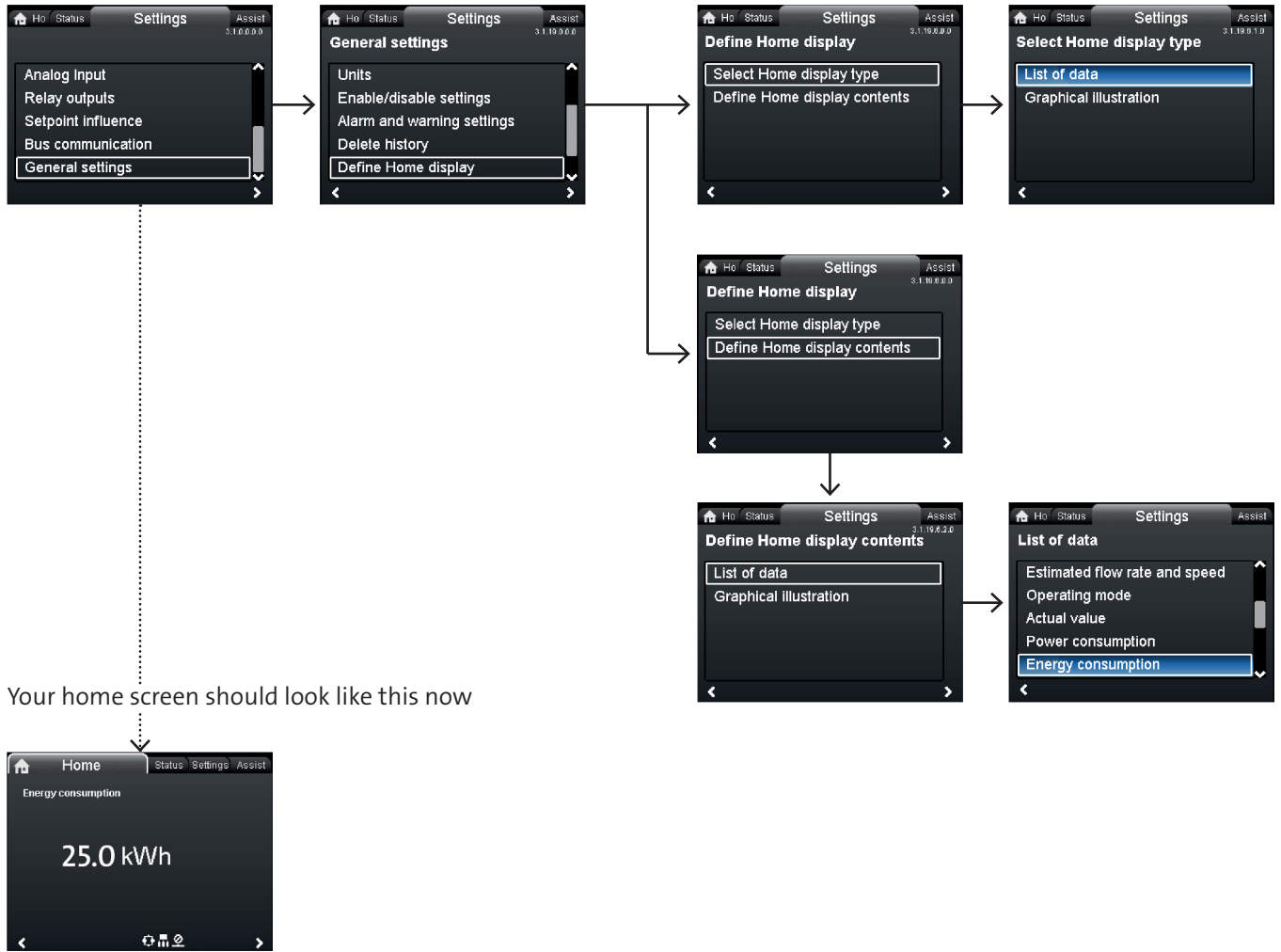
4.4 Configuring the control mode



4.5 Configuring the operating mode



4.6 Configuring home screen to show KWH



XXXXXXXX XXXX
ECM: XXXXXXXX