Z41 Pro

Capacitive color touch panel with IP connection

ZVI-Z41PRO **TECHNICAL DOCUMENTATION**

FEATURES

- 4.1'' capacitive color touch panel (320x240 pixels)
- Available in the following colors: silver (RAL 9006), anthracite black (RAL 9004) and white (RAL 9016)
- 16 million color LCD display
- Up to 12 configurable pages
- Up to 96 configurable direct control and/or indicator functions
- 2 independent thermostats
- 2 analog/digital inputs
- Customized device orientation (Vertical or Horizontal)
- Built-in temperature sensor
- Real Time Clock (RTC) with watch battery and NTP support
- External 12-29 VDC power supply
- Integrated KNX BCU (TP1-256)
- Mini-USB and Ethernet connection
- Magnetic fit
- Complete data saving in case of power failure
- Conformity with the CE, UKCA, RCM directives (marks on the back side)

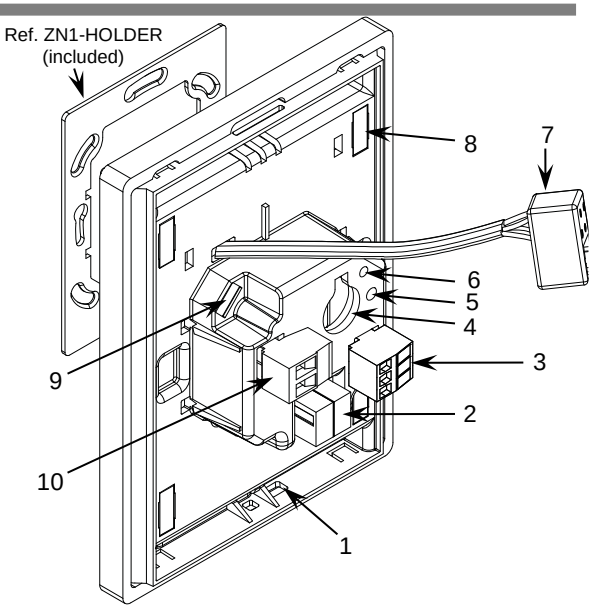


Figure 1: Z41 Pro

1. Temperature probe	2. KNX connector	3. Input connector	4. Battery	5.Programming button
6. Programming LED	7. Ethernet connector	8. Magnet	9. Mini-USB connector	10. External power supply connector

Programming button: short press to set programming mode. If this button is held while plugging the device into the KNX bus, it enters the safe mode.

Programming LED: programming mode indicator (red). When the device enters the safe mode, it blinks (red) every half second. During the start-up (reset or after KNX bus failure) and if the device is not in safe mode, it emits a red flash.

GENERAL SPECIFICATIONS

CONCEPT			DESCRIPTION	
Type of device			Electric operation control device	
KNX supply	Voltage (typical)		29 VDC SELV	
	Voltage range		21-31 VDC	
	Maximum consumption	Voltage	mA	mW
		29 VDC (typical)	6	174
		24 VDC[1]	10	240
	Connection type		Typical TP1 bus connector for 0.8 mm Ø rigid cable	
External power supply			12-29 VDC. Maximum consumption: 250 mA (12 VDC), 112 mA (24 VDC), 86 mA (29 VDC). Do not connect 29 VDC KNX bus as external power supply	
Operation temperature			5 .. +45 °C	
Storage temperature			-20 .. +55 °C	
Operation humidity			5 .. 95%	
Storage humidity			5 .. 95%	
Complementary characteristics			Class B	
Protection class			III	
Operation type			Continuous operation	
Device action type			Type 1	
Electrical stress period			Long	
Degree of protection			IP20, clean environment	
Installation			Portrait or landscape position, with the temperature sensor at the bottom or right, respectively. Magnetic fit. See Installation instructions section.	
Minimum clearances			Please, keep away from heat and cold air flows to get better temperature measurements.	
Response on KNX bus failure			Data saving according to parameterization. Initialization screen.	
Response on KNX bus restart			Data recovery according to parameterization	
Response on power supply failure			Complete data saving. Display is switched off	
Response on power supply recovery			Current data recovery	
Operation indicator			Several on display as programmed	
Accessories			RJ45 cable connector (included). Mini USB A-B cable Ref. ZN1AC-UPUSB (not included)	
Weight			237 g (Al) / 226 g (PC)	
PCB CTI index			175 V	
Housing material			PC+ABS FR V0 halogen free	

[1] Maximum consumption in the worst-case scenario (KNX Fan-In model).

INTERNAL TEMPERATURE SENSOR AND CLOCK SPECIFICATIONS		
CONCEPT		**DESCRIPTION**
Temp. Probe	Measuring range	-10 .. 50 ºC
	NTC accuracy (@ 25 °C)	±0.5 °C
	Temperature resolution	0.1 °C
	Calibration	The temperature sensor should be calibrated through the application program according to the external power supply connected. **Moreover, to avoid fluctuations in the temperature measurement, the flush-mounted box must be completely sealed once the cables are inside. Airtight boxes, polyurethane foam, silicone rubber or similar non-breathable construction materials can be used.**
Clock	Accuracy	1 minute in display / 1 second in KNX bus
	Precision	30 ppm
	Power supply	CR1225 3V battery
	Data/time Set	Manual (set from screen) or auto (through KNX clock telegrams in bus or NTP server)
	Response on power failure (bus or external power supply)	It does not affect to internal clock
	Response on power recovery	The internal error shows current time

EXTERNAL POWER SUPPLY AND PORTS SPECIFICATIONS AND CONNECTIONS	
CONCEPT	**DESCRIPTION**
Power supply voltage	12-29 VDC
Connection method	Pluggable screw terminal block (0.4 Nm max.)
Cable cross-section of power supply	0.2-2.5 mm² (IEC) / 22-12 AWG (UL)
USB Connector	Mini USB type A connector. Version 2.0. Do not connect to PC, hard drives or other devices with consumption higher than 150 mA. Please refer to the user manuals at www.zennio.com for details on how to upgrade the firmware through this port. The information about the underlying software licenses can be downloaded through the USB port by connecting a flash memory drive containing an empty folder named Z41_LICENSE (please ensure that the firmware version is 3.4.3 or greater).
Ethernet Connector	RJ45 connector with 4 poles: Rx(+), Rx(-), Tx(+) and Tx(-). To use this port, consult the Manual for Firmware Update at www.zennio.com.

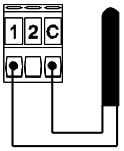
INPUTS SPECIFICATIONS AND CONNECTIONS	
CONCEPT	**DESCRIPTION**
Number of inputs	2
Inputs per common	2
Operation voltage	+3.3 VDC in the common
Operation current	1 mA @ 3.3 VDC (per input)
Switching type	Dry voltage contacts between input and common
Connection method	Pluggable screw terminal block (0.2 Nm max.)
Cable cross-section	0.2-1.5 mm² (IEC) / 28-14 AWG (UL)
Maximum cable length	30 m
NTC probe length	1.5 m (extensible up to 30 m)
NTC accuracy (@ 25 °C) [2]	±0.5 °C
Temperature resolution	0.1 °C
Maximum response time	10 ms

[2] For Zennio temperature probes.

* In case of using ZN1IO-DETEC-P sensor, its micro switch number 2 must be in **Type B position.**

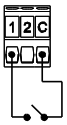
Any combination of the following accessories is allowed in the inputs:

Temperature Probe



Zennio Temperature Probe

Switch/Sensor Push button



Motion Sensor

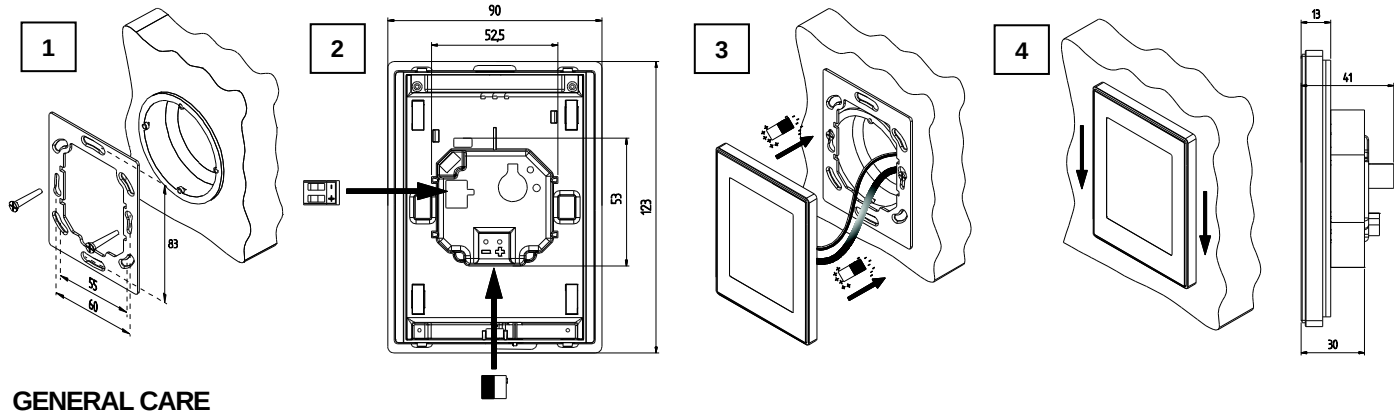
Up to two motion sensors can be plugged into the same device input (parallel wiring)

Screw terminal for connecting Zennio motion sensors*

INSTALLATION INSTRUCTIONS

1. Place the metallic piece into a square or rounded standard mounting box with screws.
2. Connect the KNX bus, inputs and Ethernet at the rear of Z41 Pro, as well as the external power.
3. Once it is connected, fit Z41 Pro in the metal platform. The device is fixed through the magnets.
4. Slid Z41 Pro downwards to fix it with the security anchorage system. Check, from the side, that nothing unless Z41 Pro outline can be seen (the metal platform should be completely hidden by Z41 Pro).
5. In case of landscape configuration, please follow the steps considering a 90º counter-clockwise rotation.

To uninstall proceed in the reverse way.



GENERAL CARE

- Do not use aerosol sprays, solvents, or abrasives that might damage the device.
- Clean the product with a clean, soft, damp cloth.

SAFETY INSTRUCTIONS AND ADDITIONAL NOTES

- Installation should only be performed by qualified professionals according to the laws and regulations applicable in each country.
- Do not connect the mains voltage nor any other external voltage to any point of the KNX bus; it would represent a risk for the entire KNX system. The facility must have enough insulation between the mains (or auxiliary) voltage and the KNX bus or the wires of other accessories, in case of being installed.
- Keep the device away from water (condensation over the device included) and do not cover it with clothes, paper or any other material while in use.
- The WEEE logo means that this device contains electronic parts and it must be properly disposed of by following the instructions at https://www.zennio.com/en/legal/weee-regulation.