EQON THERMAL CONTROLLER
EQON TC32 IoT
Installation, Operation and maintenance manual

Document properties (ETD3206)

Revision	Comment	Revision date	Performed by	Approved by
Rev.00	New manual	16.04.2025	EA	ML

Contents

General Description

Prior to installation, be sure to read and understand this installation, operation and maintenance manual.

Observe national assembly and installation regulations.

Always contact the manufacturer if anything is unclear, or if you notice any faults with the product or in this manual.

Content in Box:

- 1 pcs EQON TC32 IoT

Not included:

- Plugs for connecting power inlet / power outlet
- Plugs for connecting Temperature sensors
- Ethernet Switch
- CAT 6 cables for connecting to ethernet switch
- 24V DC power supply

Technical Data

El-number	**45000744**
Housing material	**Aluminum (anodized/Cataphorized)**
Dimensions	**L 185mm x W 126mm x H 36mm**
Weight	**0,8 kg**
Ingress protection	**IP20**
Power Supply Voltage – Main	**110/230 VAC +/-10%, 50/60Hz, TN/IT**
Power Supply Voltage – Controller unit	**24 VDC**
Maximum power output – Main	**230 VAC / 32 A**
Power Output Control Range	**0-100%**
Temperature Output Accuracy	**0,2 °Celsius**
Power Supply Terminals – Main	**3 x Max 10mm²**
Power Supply Terminals – Controller Unit	**2 x 1,5mm²**
Power Output Terminals	**3 x Max 10mm²**
Power Consumption – Controller Unit	**< 3W**
Sensor Input	**2 x PT100, 4 wires**
Sensor Input Terminals	**4 x 1,5mm², 2 channels**
Sensor Input Temperature Range	**-40°C to +150°C**
Ambient Temperature Range	**0°C to +40°C**
Storage Temperature Range	**-20°C to +50°C**
Installation method	**DIN rail, 35mm**

Product Description

EQON TC32 IoT is an industry leading IoT heat-trace controller for individual control of each circuit.

EQON's TC32 IoT is designed for property and industrial applications, ensuring ice-free surfaces and energy-efficient heating with enhanced oversight. The TC32 IoT delivers maximum savings, safety, sustainability, and total control of heat cable systems.

The compact design and simple system architecture will lower implementation cost, and provide control and monitoring where previously not feasible, enabling full digitization of your heat management.

Some of the features include, but are not limited to:

- Seamless power output control, through digital switching and MOSFET technology
- Reduces power consumption with smart technology
- Realtime online monitoring of power consumption
- Trending of insulation value of heating cable
- A powerful digital platform for advanced monitoring and control of heating cables

Transport and Storage

- Transport and store the equipment in the original packaging.
- Store the equipment in a dry and ventilated space.
- Do not Drop!

Mounting and installation

Incorrect mounting and installation may lead to the risk of electric shock or fire and risk of equipment malfunction. This may lead to severe damage and/or injuries and voids any warranty associated with the product.

Mounting

The EQON TC32 IoT controller is DIN mounted and should be connected directly to the DIN rail in the control cabinet. The EQON controllers can be mounted adjacent to each other or other equipment.

See figure 1.

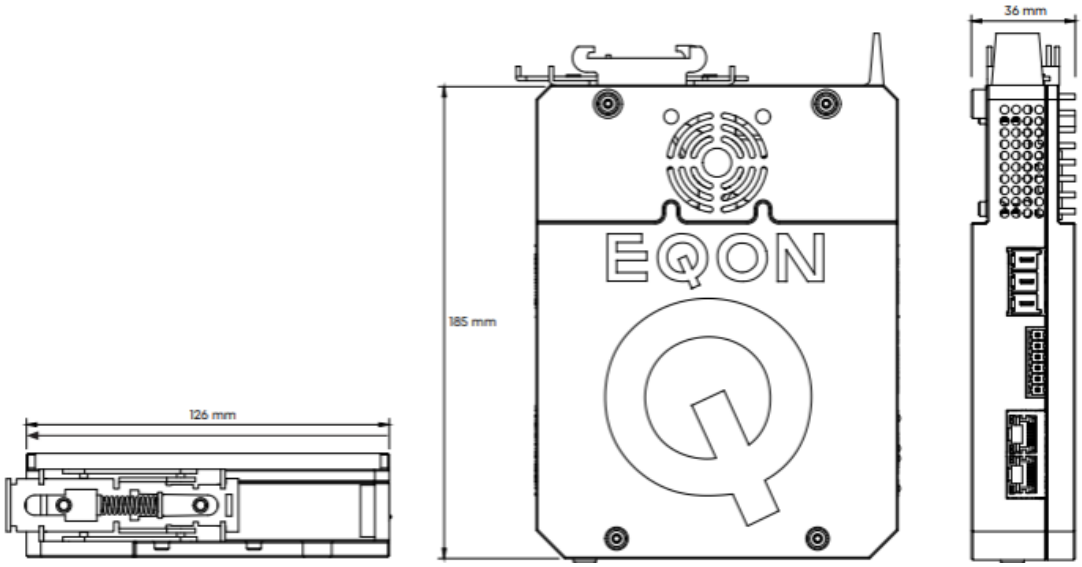


Figure 1

Electrical connections

For connecting the controller to Power input, Power output and PT100 signals, specified plugs shall be used for the connection. Please see the list of corresponding parts under “Part No. for connection in field”.

See figure 2 for normal wiring setup in field.

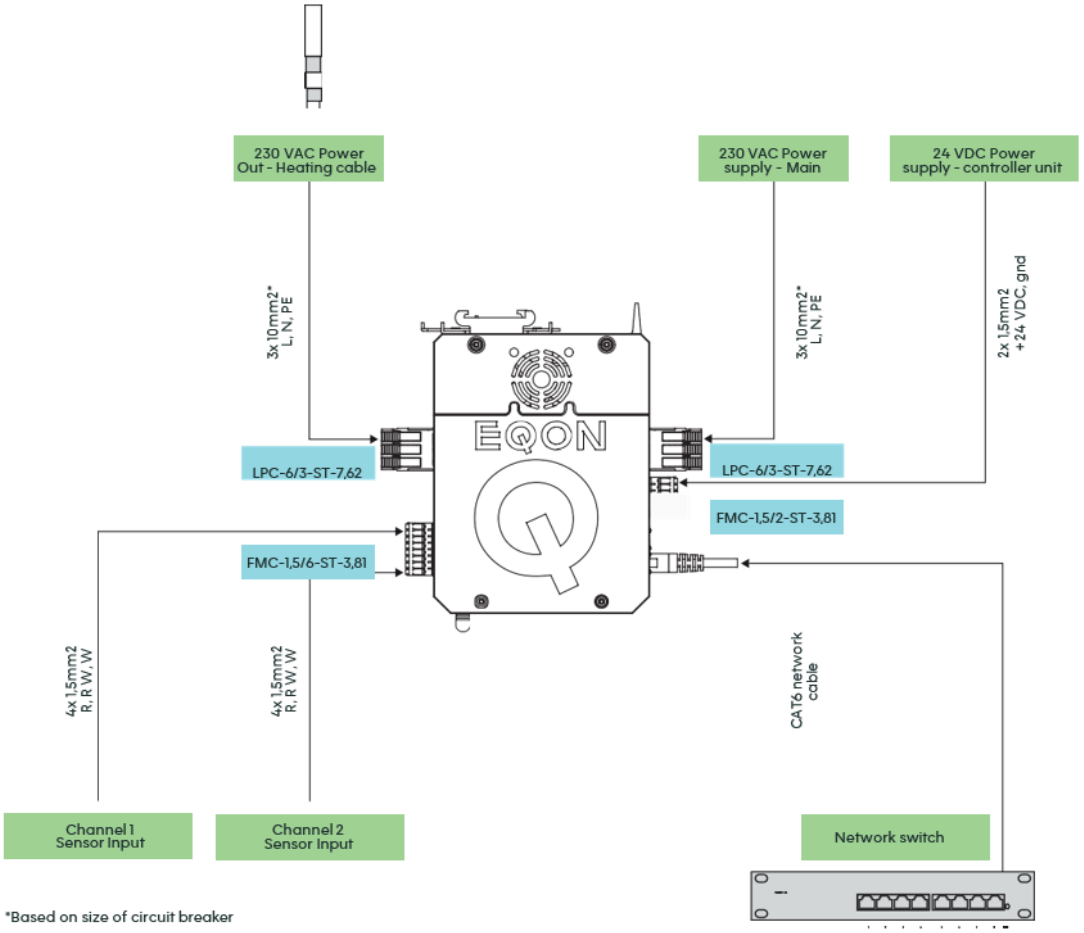
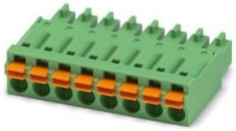


Figure 2

Part No. for connection in field

Image	Description	Manufacturer Part No.	Qty needed for 1 EQON TC32
	Phoenix Contact PCB Connector LPC 6/ 3-ST-7, 62 Connector for AC input/output	1716922	2pcs
	Phoenix Contact PCB connector FMC 1,5/ 2-ST-3, 81 Connector for DC input	1745894	1pcs
	Phoenix Contact PCB Connector FMC 1,5/ 8-ST-3, 81 Connector for temperature connection (typical PT100 element)	1748037	1pcs

Communication

Type	**Ethernet / Wi-Fi / BLE**
Bitrate	**10/100/1000Mbps**
Cable	**Cat 6 connector type RJ45**

Output

Light indication on Controller	
Green	**System running**
Red	**System running, w/ alarm**
White	**Unit start-up sequence**
Engineering values	
	32 (A)
	110-230 (VAC)

Communication interface

For communication interface, please see project specific information.

Maintenance and cleaning

No maintenance required. Clean only with a damp cloth, if necessary.

Disposal

- Observe national and local regulations and statutory regulations regarding disposal.
- Separate materials when sending it for recycling.
- Ensure environmentally friendly disposal of all components.
- No component or packaging shall end up in nature during any stage of the product's lifetime.
- EQON TC32 shall be disposed of as EE-equipment at a certified recycling company or sent to EQON for disposal where the units will be accepted free of charge.

Compliance / conformity

- CE approval from Tüv Süd, CB cert. 121120 0001 Rev. 00
- EN 61000-6-4:2007/A1: 2011
- IEC 61000-6-2:2016
- EN IEC 63000:2018
- IEC 61010-1:2010
- IEC 61010-1:2010/AMD1:2016
- NEK IEC 60529:1989+A1:1999+A2:2013
- NEK EN 60068-2-6:2008

Declaration of Conformity

EQON

EU Declaration of Conformity

EQON AS, Veritasveien 25, 4007 Stavanger, Norway

Declares in its sole responsibility,

That the product: EQON Thermal Controller

Type: EQON TC32 IoT

Is in conformity with the requirements of the following directives and standards.

Directive(s)		Standard(s)
2014/30/EU	**EMC Directive**	EN 61000-6-4:2007/A1: 2011, IEC 61000-6-2:2016
2011/65/EU	**ROHS Directive**	EN IEC 63000:2018
2014/35/EU	**Low Voltage directive**	IEC 61010-1:2010 IEC 61010-1:2010+AMD1:2016 NEK IEC 60529:1989+A1:1999+A2:2013
2014/90/EU	**Marine Equipment Directive**	DNV-OS-D202 Ch.2 Sec.4
CE – Marking according to		CE 0123 CB cert. 121120 0001 Rev. 00
The technical documentation for this equipment is retained at the following address		EQON AS, Veritasveien 25, 4007 Stavanger, Norway

Signed for and on behalf of EQON AS:

Stavanger, 16.04.2025
Place and date

Stavanger, 16.04.2025
Christophe Tarayre
Chief Technology Officer

Stavanger, 16.04.2025
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Doc.No: ETD3207 Rev.01 Subject to change without prior notice