iQ Digital Controller.

Datasheet

Available from:
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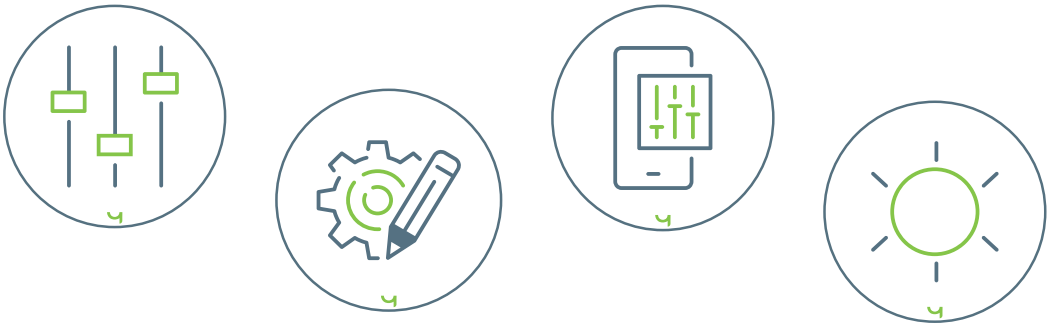
LoRa Alliance® Member

Application.

- The iQ Digital Controller makes it possible to control digital outputs.
- iQ Digital Controller is a LoRaWAN devices for controlling 2 isolated relay outputs.
- iQ Digital Controller makes it easy to remotely operate equipment that needs to be switched on / off.
- The LoRaWAN® module with a very long data transmission range allows the device to be used
- virtually anywhere.



Components.

- iQ Controller has 2 fully isolated, independently controller 230V 10A relay channels.
- iQ Controller has 2 override buttons to manually control the output state of each relay.
- The front of the iQ Controller contains LEDs to indicate the current status of the output.
- The device consists out of a Microcontroller with LoRaWAN® and Bluetooth Low Energy communication modules.
- The device is adapted for mounting on a TS-35 standard dinrail within HVAC or electrical cabinets.
- The device has an internal temperature sensor to measure environmental conditions.
- The device has a an internal temperature sensor to protect the internal electronics from overheating.

Device Operation.

- The iQ Digital Controller requires an operational LoRaWAN® network to transmit data, however it can operate as a stand-alone device as well.
- The device is powered by 230V, an internal busbar allows for the 230V to be used for powering the relay channel.
- Configuration of the device is done using mobile app or LoRaWAN downlinks.
- The iQ Digital Controller transmits data over more then 2 km in an open space with a medium density of buildings.
- It's recommended to add the device to the Yobi Hub, which allows detailed and easy monitoring of the data transmitted by the device.

Advantages.

- Because of it's ability to operate stand alone or over the LoRaWAN network you save on cabling costs.
- PCB protected against temperature overload by automated shutdown.
- Conversion of existing installations is not required because of the LoRaWAN module.
- The device is manufactured in Europe by qualified engineers and CE certified.
- The device synchronizes time over the LoRaWAN network ensuring that the time is always accurate.
- The data transmission is pseudo-random to avoid radio collisions.
- The device can be used on Private or Public Networks and works with the majority of the network servers and visualization platforms.

Mounting Advice.

The device contains a radio antenna, it's recommended to observe the environment when mounting the device to avoid problems due to for instance EMC.
The installation can be performed on a flat wall surface.

The installation and assembly of electrical equipment should only be performed by authorized personnel.
The product should only be used for the intended application. Unauthorised modifications are prohibited! The product must not be used in relation with any equipment that in case of a failure may threaten, directly or indirectly, human health or life or result in danger to human beings, animals or assets.
Ensure all power is disconnected before installing.
Do not connect to live/operating equipment.

CAUTION!
Risk of electric shock due to live components within the enclosure.

Please comply with:

- Local laws, health & safety regulations, technical standards and regulations
- Condition of the device at the time of installation, to ensure safe installation
- This data sheet and installation manual

Technical Details.

General System Parameters.

Power Supply	230VAC
Ambient condition	0..60°C, max. 85% rH non-condensing
Enclosure	PC, UL94-V0
Protection	IP30 according to EN60529
Size	36x90x58 mm
Weight	125g
Mounting	TS35 Din Rail
Control functions	Digital Outputs
Functions	Local Override
Display	-
Connection electrical	Terminal block, max 2,5mm²

Relays.

Contact material	AgSn02
Rated current	10A
Max. switching voltage	250VAC

Sensors.

Temperature	-10°C to 80°C (+/- 0.3°C)
Humidity	0-100% Rv (+/- 2%)

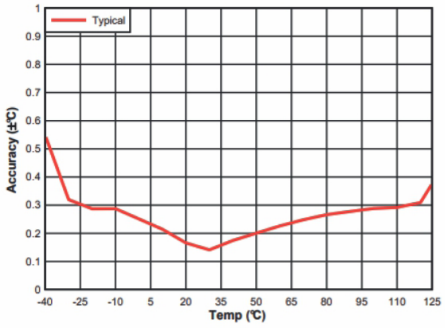


figure 1
Accuracy temperature sensor

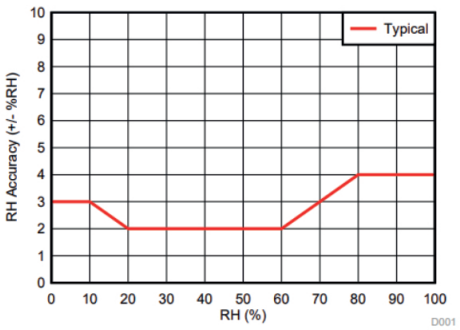


figure 2
Accuracy RH sensor

Regulatory Compliance.

CE	Low Voltage Directive (EU/2014/30) EMC Directive (EU/2014/35) Radio Equipment Directive - RED (EU/2014/53)

Temperature Protection.

The internal circuit of the device is monitored to detect abnormal internal device temperatures. Abnormal temperatures can result from overloading the relay or the internal circuit / busbar etc.

The temperature treshold is fixed at the maximum operating temperature as listed within the technical specifications. If the measures temperature goes above the treshold the relay channels will go OFF immediately regardless of the relay state or the manual override.

When the temperature drops 5°C below the maximum operating temperature the device will return to the initial device state.

Wiring.

The terminals each accept 0.5 to 4.0mm2 wires, each relay is connected using a common and normally open terminal.

Supply voltage is connected between the line voltage and neutral terminals, the line voltage has 3 terminals available which are marked with “L” these are internally connected.

This has been done to make it easier to use the line voltage as a connection bar for one or both of the relay terminals.

Order Information.

iQ Digtal Controller- LoRaWAN 868 (EU)	1002003

DIGITAL OUTPUT 1
DIGITAL OUTPUT 2
PWR / LORAWAN
RM200
LoRaWAN Relay Module
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