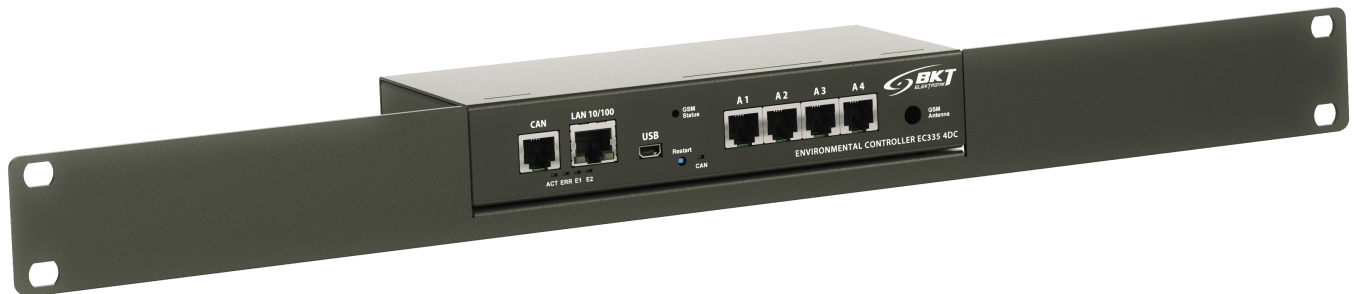


## Product Information

Environmental Controller EC335 4DC

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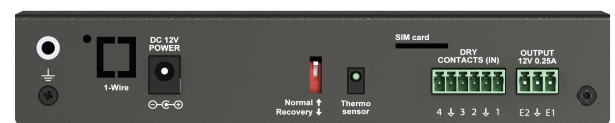
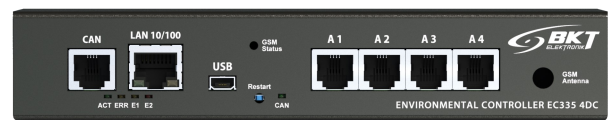
## Product description

The Environmental Controller is used to monitor parameters (such as temperature, humidity, etc.) in the IT cabinet and in small IT facilities. It is designed to warn a user about possible danger and to alert of failures occurred. The controller allows a user to connect up to 28 analogue sensors (using 3 EE321 modules), up to 36 sensors with voltage-free contacts (using 1 EE322 module), up to 20 1-wire sensors (using 1 EE323 module) and two signalling devices. To keep a satisfactory system performance, it is not recommended to connect more than 40 sensors to the controller.

## Technical Specification

### Hardware

Analogue Inputs	4 inputs A1-A4 (RJ12 sockets) for dedicated analogue sensors. Any combination of 4 sensors can be connected to the device. Some sensors can be connected in a chain. The type of the connected sensor is detected automatically.
Voltage-free Inputs	4 inputs IN1-IN4 (releasable terminal block) for any sensors with voltage-free contacts.
Outputs	2 outputs E1-E2 (releasable terminal block) with voltage 12V/250mA
CAN port	1 connector (RJ12 socket) for max 8 CAN devices ex. optional extension modules or CAN sensors.
Other ports	<ul style="list-style-type: none"> <li>Ethernet port 10/100Mbps (RJ45 socket)</li> <li>Port USB 2.0 (Mini-B socket)</li> </ul>
Others	Optional GSM card
Power Supply	External power supply 12V/1A, power consumption $\leq 10W$
Dimensions	180x80x33 (W x D x H) - controller 482x80x44 (W x D x H) - with 1U 19" bracket
Operating Conditions	<ul style="list-style-type: none"> <li>Temperature: 0°C - 60°C</li> <li>Humidity: 0% - 90% RH (without condensation)</li> </ul>
Weight	700g
Index	122EC003351



### Software

Operating System	Linux
Configuration interface	Web
Protocols that are used	HTTP, HTTPS, PING, DHCP, RADIUS, SYSLOG, FTP, SMTP, SNMP (v1,v2,v3)
Alarm Notifications	E-mail, SNMP trap, internet SMS gateway, SMS (optional with EA317 GSM modem)
Functionality	Please see the tables below

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Basic Functionality

<p>Automatic detection of the presence and the type of sensors.</p>		<p>4 alarm thresholds, 2 low and 2 high. An alarm can be raised when read value exceeds any threshold.</p>	
<p>Configurable logical functions of the relationship between inputs (sensors) and outputs .</p>		<p>Email, SNMP Trap, internet gateway SMS &amp; SMS notifications.</p>	
<p>Controlling the states of other devices on the network using PING &amp; SNMP Get protocols.</p>		<p>Possibility to connect a USB camera (eg. Logitech C210) for remote monitoring of IT infrastructure.</p>	
<p>Measured values can be stored on USB drive. Graphs of limited history of measurements.</p>		<p>Creating the users with different access rights.</p>	
<p>Visualization of sensor states on the floor layout directly from the device web interface.</p>		<p>Possibility to visualise states of the device from external software eg. SM4DC using SNMP protocol.</p>	

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## Analogue Sensors

Any sensors from the table below can be connected to 4 analogue inputs (A1-A4) of the controller or inputs (A1-A8) in additional EE321 extension modules (extension module with additional 8 analogue inputs). One controller can support up to 28 analogue sensors. If longer than included cable is needed, it is a UTP Cat5e or flat cable suggested.





Type	Description	Index
	<b>ES350</b> - Temperature sensor Measurement range: -10°C - +100°C Dimensions: 60x18x18 Maximum cable length: 100m (2m included)	122ES003500
	<b>ES351</b> - Humidity sensor Measurement range: 10% - 95% RH Dimensions: 60x18x18 Maximum cable length: 50m (2m included)	122ES003510
	<b>ES352</b> - AC Voltage monitor Measurement range: 90VAC - 250VAC Dimensions: 63x66x30 Maximum cable length: 100m (2m included)	122ES003520
	<b>ES353</b> - Door sensor (reed + magnet) Possibility to connect up to 10 sensors in a daisy chain Dimensions: 60x18x18 Maximum cable length: 150m (2m included)	122ES003530
	<b>ES354</b> - Vibration sensor Possibility to connect up to 10 sensors in a daisy chain Dimensions: 60x18x18 Maximum cable length: 150m (2m included)	122ES003540
	<b>ES356</b> - Optical smoke sensor Possibility to connect up to 10 sensors in a daisy chain Dimensions: $\phi$ 100x45 Maximum cable length: 150m (2m included)	122ES003560
	<b>ES357</b> - PIR passive infrared detector Movement detection range: 100° x 12m Dimensions: 105x57x40 Maximum cable length: 50m (2m included)	122ES003570
	<b>ES358</b> - Outdoor temperature sensor Measurement range: -40°C - +100°C Dimensions: $\phi$ 7x30 + 15m cable Maximum cable length: 100m (15m included)	122ES003580
	<b>ES359</b> - Leak sensor Detection delay: 1s Dimensions: 60x18x18 Maximum cable length: 100m (2m included)	122ES003590

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## Analogue Sensors continuation

Type	Description	Index
	<p><b>ES360</b> - Leak sensor for water sensitive cable Requires water sensitive cable ES361 Dimensions: 60x18x18 Maximum cable length: 100m (2m included)</p>	122ES003600
	<p><b>ES361</b> - Water sensitive cable Requires ES360 sensor Dimensions: 60x18x18 Available lengths: 6m, 10m, 17m, 25m, 50m</p>	122ES003610
	<p><b>ES362</b> - 4-20mA sensor It enables to connect any 4-20mA sensors to the EC3004Dc controller. It has 1kV galvanic isolation between the input and the output. Dimensions: 60x18x18 Maximum cable length: 50m (2m included)</p>	122ES003620
	<p><b>ES363</b> - DC voltage monitor It has 1kV galvanic isolation between the input and the output. Measurement range: 0VDC - 60VDC Dimensions: 60x18x18 Maximum cable length: 50m (2m included)</p>	122ES003630

## 1-wire digital sensors

The 1-wire sensors can be connected to the controller only via an additional EE323 extension module (1-wire module). The 1-wire is a serial bus and allows connecting sensors in a daisy chain (from sensor to sensor). One controller can support up to 20 1-wire sensors. The length of the 1-wire bus should not exceed 100m. It is a UTP Cat5e suggested as a 1-wire bus cable

Type	Description	Index
	<p><b>ES365</b> - 1-wire temperature sensor Measurement range: -50...+105°C Possibility to connect up to 20 sensors in a daisy chain Dimensions: 60x18x18 Maximum cable length: 100m (2m included)</p>	122ES003650
	<p><b>ES366</b> - Outdoor 1-wire temperature sensor Measurement range: -50...+105°C Dimensions: <math>\phi</math>7x30 + 15m cable Maximum cable length: 100m (15m included)</p>	122ES003660


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## CAN digital sensors

These sensors are connected to the CAN interface of the EC335 4DC controller. The CAN interface is a serial bus and allows connecting devices in a daisy chain (from device to device). A maximum of 8 devices can be connected to the controller via the CAN interface. The length of the CAN bus should not exceed 200m. It is a UTP Cat 5e suggested as a CAN bus cable.

Type	Description	Indeks
	<p><b>ES340</b> - Integrated smoke, humidity 10-95%, temperature -10...+85°C sensors; CAN bus</p> <p>Possibility to connect up to 8 devices in a daisy chain. The sensor has 2 CAN ports for daisy chain connecting.</p> <p>Dimensions: <math>\phi 100 \times 45</math></p> <p>Maximum cable length: 200m (2m included)</p>	122ES003400

## Extension modules

Expansion modules increase the number of available ports for sensors connected to one controller. The EE321 and EE322 modules must be connected to the CAN interface of the EC335 4DC controller. The CAN interface is a serial bus and allows connecting in a daisy chain (from device to device). A maximum of 8 devices can be connected to the controller via the CAN interface. The length of the CAN bus should not exceed 200m. It is a UTP Cat5e suggested as a CAN bus cable. The EE323 module is to be mounted inside the controller. This module provides a 1-wire bus for up to 20 1-wire sensors. The length of the 1-wire bus should not exceed 100m. It is a UTP Cat5e suggested as a 1-wire bus cable.



Type	Description	Indeks
	<p><b>EE321</b> – extension module of 8 analogue inputs (RJ12)</p> <p>The module must be connected to the controller CAN port. There are 2 CAN ports (RJ12) for daisy chain connecting. The controller can support up to 24 additional analogue sensors. There are no 19" brackets for this module. The power supply is included.</p> <p>Dimensions: 110x68x40</p> <p>Maximum cable length of CAN bus: 200m</p>	122EE003210
	<p><b>EE322</b> – extension module of 32 dry contact inputs</p> <p>The module must be connected to the controller CAN port. There are 2 CAN ports (RJ12) for daisy chain connecting. The controller can support up to 32 additional dry contact inputs. There are 19" brackets included.</p> <p>Dimensions: 215x40x40</p> <p>Maximum cable length of CAN bus: 200m</p>	122EE003220
	<p><b>EE323</b> – 1-wire extension module</p> <p>The module is to be mounted inside the controller. It has RJ9 (4P4C) connector for 1-wire sensors.</p> <p>Dimensions: 44x23x15</p> <p>The module is supplied with a connection cable.</p>	122EE003230

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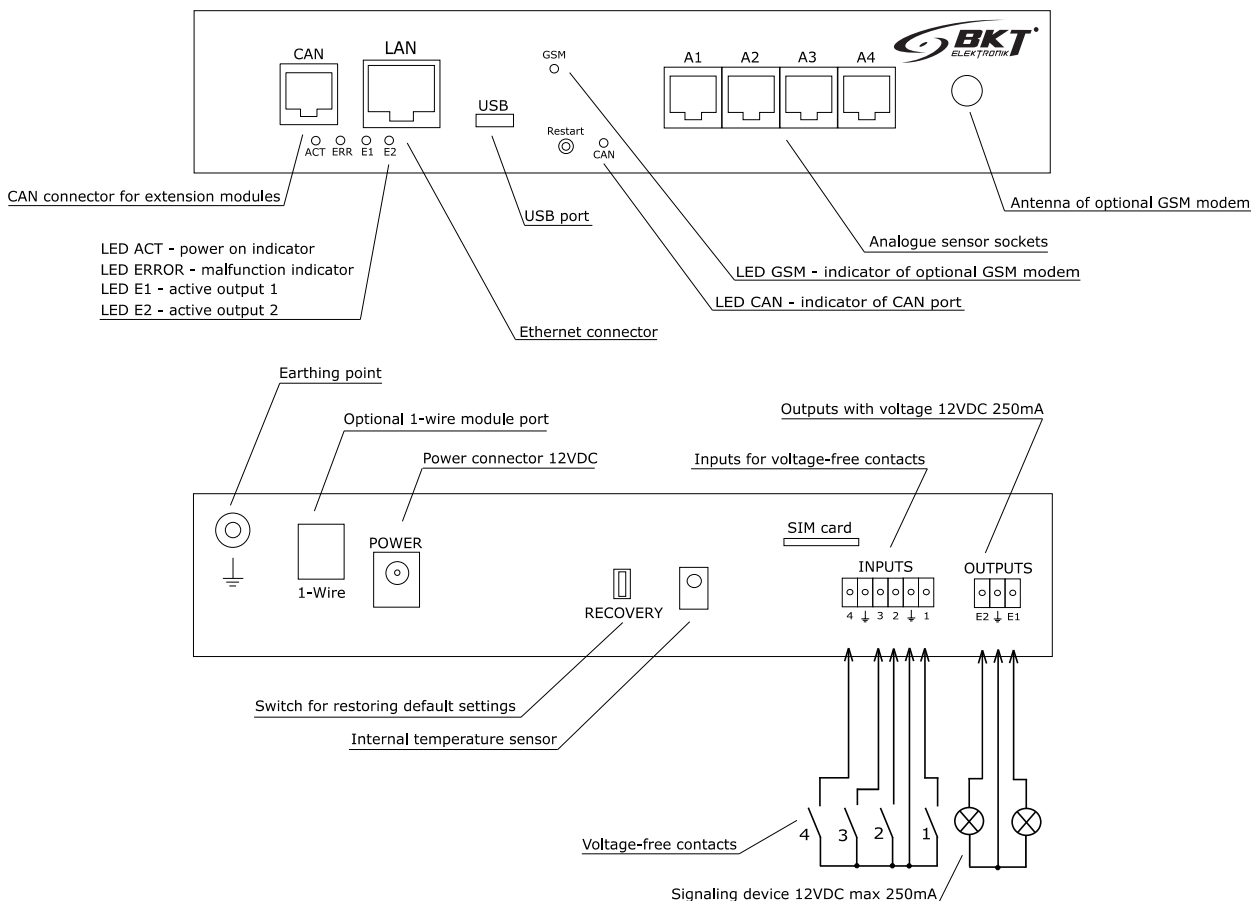
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Accessories

Type	Description	Index
	<b>EA311</b> - 1U 19" bracket for EC335 4DC Dimensions: 482x44x80 Note that this bracket is included with controller	122EA003110
	<b>EA317</b> - GSM modem for EC300 4DC Dimensions: 60x50x15 Text message (SMS) modem. Works in 850/900/1800/1900 MHz GSM networks	122EA003170

Wiring Diagram

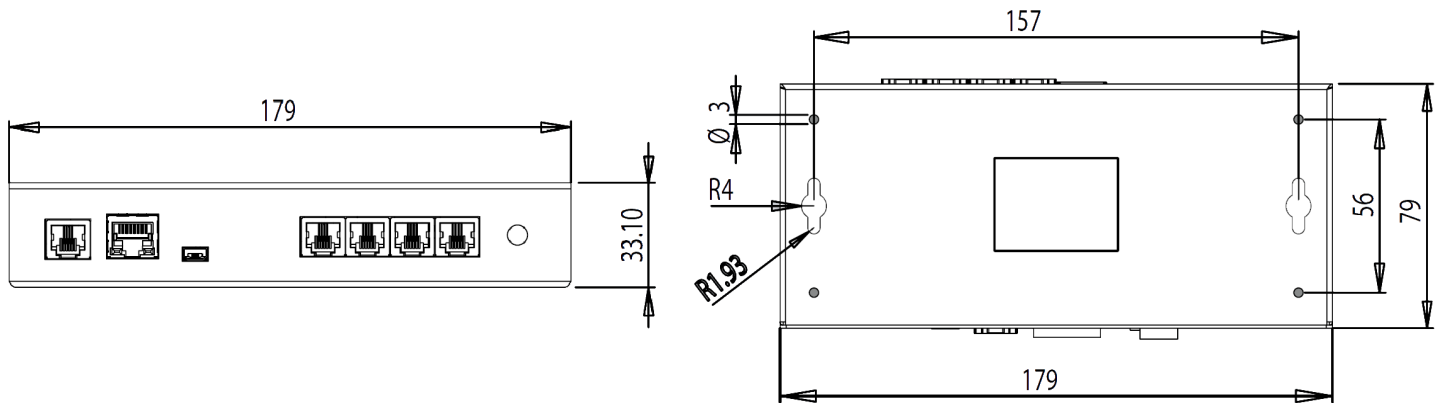


## Product Information

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## Dimensions





## Factory Settings

### Default Factory Settings

IP Address	192.168.0.193
Subnet Mask	255.255.255.0
Gateway	192.168.0.1
DNS	192.168.0.1
DHCP	Turned off
Credentials	User: guest; Password: guest

### Restoring Default Settings Procedure

<b>Warning</b>	All current settings will be erased
1	Turn on the device
2	 Toggle Normal/Recovery button into RECOVERY position for 10-15 seconds
3	 Switch the button back into the NORMAL position and wait for the reboot of the device
4	All factory settings have been restored