CATAN C1 EN - Controller

1371432

https://www.phoenixcontact.com/au/products/1371432

Controller for building automation. 14 configurable inputs and outputs. Interfaces: 3 x Ethernet, 2 x RS-485, 2 x USB-C, TP for room automation, 2 x SPE for Catan extension modules. Local override operation via Catan Control Panel.

Product description

The CATAN C1 EN controller is the central component of the Catan product family for building and room automation. The compact REG housing with an overall width of just 6 HP fits in all electrical distributors. The highly flexible mix of inputs and outputs leads to further space and cost savings. Each channel can be configured individually: universal inputs are suitable for temperature sensors, 0 V ... 10 V interfaces, or as meters, among other things. Alternatively, outputs can be configured as digital inputs. The controller is equipped with a managed switch (3 x 1 Gbps). Emalytics and the Niagara Framework are a powerful tool available as the programming environment. This makes it possible to integrate protocols such as BACnet, KNX, Modbus, and much more, and provides functions from room automation to HVAC and visualization. Easy cloud integration is possible as a building IoT controller.

Your advantages

• Space and cost savings thanks to highly flexible I/O configurability

• High-performance extension bus also enables distributed installation

• Startup and maintenance with plug-in display for local operation

• Support for all key building automation protocols

• Software security with secure boot, signed software, and TPM-protected device identity

• Effective engineering and visualization with Emalytics and the Niagara Framework

• Digital twin as the basis for smart buildings

Commercial data

Item number	1371432
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DRHAFA
Product key	DRHAFA
GTIN	4063151729899
Weight per piece (including packing)	264.3 g
Weight per piece (excluding packing)	264.3 g
Customs tariff number	85371091
Country of origin	DE

Technical data

Notes

Note on application

Note on application	Only for industrial use

Product properties

Product type	Controller
Product family	Catan
Special properties	Development process certified in accordance with IEC 62443-4-1
Installation location	indoor use

Insulation characteristics

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Overvoltage category	II (IEC 60664-1, EN 60664-1)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

System properties

Trusted Platform Module	TPM 2.0
Processor	Arm®Cortex®-A53, 4x 1600 MHz
Retentive data storage	5 GByte (eMMC)
	512 kByte (MRAM, additional memory)
RAM	1024 Mbyte (LPDDR4-RAM)

Functionality

Programming languages supported	Niagara Framework®

System requirements

Engineering tool	Emalytics

Electrical properties

Test voltage: Extension bus/communications	500 V AC, 50 Hz, 1 min
Test voltage: Logic/functional ground	500 V AC, 50 Hz, 1 min
Test voltage: LAN / logic	500 V AC, 50 Hz, 1 min
Test voltage: TP / logic	500 V AC, 50 Hz, 1 min
Test voltage: RS-485 / logic	500 V AC, 50 Hz, 1 min

Supply

Supply voltage (DC)	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Max. current consumption	max. 3.6 A
Typical current consumption	350 mA (without external load)
	400 mA (with display)
Current carrying capacity (Terminal points)	13.5 A
Current carrying capacity (Pass-through between the terminal	4 A

points)	

Real-time clock

Realtime clock	integrated (capacitive buffering)

Input data

Analog: Universal input

Input name	Analog current inputs
Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA
Protective circuit	Surge protection

Analog: Universal input

Input name	Analog voltage inputs
Voltage input signal	0 V ... 10 V
Input resistance of voltage input	> 5 MΩ
Protective circuit	Surge protection

Digital: Universal input

Input name	Digital inputs
Description of the input	EN 61131-2 type 2 and 3
Input voltage range "0" signal	-3 V DC ... 5 V DC (An open input always provides a 0 signal.)
Input voltage range "1" signal	11 V DC ... 30 V DC
Nominal input voltage U_{IN}	24 V DC

Digital: Universal input

Input name	Floating contacts
Input information	Connect the contact to ground.
Description of the input	Open/closed contact

Digital: Digital input (DOI)

Input name	"Digital input" function
Input information	Connect the contact to ground.
	Recommendation: If you use sensitive contacts such as reed contacts, connect a series resistor of at least 100 Ω in series.
Connection method	Push-in connection
Connection technology	2-conductor

Digital: Universal output

Input name	Digital inputs
Input information	You can parameterize each universal output as a digital input. See ""Digital input" function" table.

Analog

Input name	Analog temperature inputs
Sensor types (RTD) that can be used	Pt 1000

Analog

Input name	Analog temperature inputs
Sensor types (RTD) that can be used	Ni 1000, LG-Ni 1000

Analog

Input name	Analog temperature inputs
Sensor types that can be used (TC)	NTC 10k, NTC 20k, NTC 10 k Pre

Analog

Input name	Analog resistance inputs

Analog

Input name	Analog resistance inputs

Counter: Universal input

Input name	Counter inputs
Input frequency	max. 20 Hz (Signal is debounced)
Resolution	1 Impulse

Counter: Digital input (DOI)

Input name	Counter inputs
Input frequency	max. 20 Hz (Signal is debounced)
Resolution	1 Impulse

Output data

Analog: Universal output

Output name	Analog voltage outputs
Voltage output signal	0 V ... 10 V

Digital: Digital output (DOI)

Output name	Digital outputs with "Digital input" function (DOI)
Note on output	To obtain a valid voltage level for a logical "0" signal at the output, use a load resistor <1 kΩ.
	You can parameterize each digital output for the "Digital input" function.
Connection method	Push-in connection
Connection technology	2-conductor
Number of outputs	4
Protective circuit	Short-circuit protection
	Overload protection
	Protection against incorrect DC connection (max. 30 V)
Output current	max. 500 mA (per channel)
Nominal output voltage	24 V DC
Output current when switched off	max. 1.4 mA
Nominal load, ohmic	12 W (48 Ω)
Permissible cable length	max. 30 m (For compliance with the requirements in accordance with CE and to ensure compliance with the EMC Directive)
Reverse voltage resistance to short pulses	Reverse voltage proof

Behavior with overload	Auto restart
Behavior at voltage switch-off	The output follows the power supply without delay

Digital: Universal output	
Output name	Digital outputs
Note on output	The technical data is identical to the data of the digital outputs with "Digital input" function (DOI).

Connection data

Connections 1 ... 2 (TP bus connection)

Connection method	Bus connection terminal
Note on the connection method	4-conductor, 2-position
Conductor cross section, rigid	0.34 mm² ... 0.75 mm²
Conductor cross section AWG	22 ... 18

Connections 3 ... 62 (power supply, link bus, I/O)

Connection method	Push-in connection
Conductor cross section, flexible	0.5 mm² ... 1.5 mm²
Conductor cross section AWG	24 ... 16
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 1.5 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 1.5 mm²
Stripping length	10 mm
Conductor cross section, rigid	0.2 mm² ... 1.5 mm² (Conductor connection with open terminal point)
	0.34 mm² ... 1.5 mm² (Push-in connection)
Nominal cross section	1.5 mm²

Interfaces

Bus for room automation

Number of interfaces	1
Connection method	Bus connection terminal
Transmission speed	9600 bps

Ethernet

Number of interfaces	3
Connection method	RJ45 jack, shielded
Transmission speed	10/100/1000 Mbps

RS-485

Number of interfaces	2
Connection method	Push-in connection

Extension bus (link bus)

Number of interfaces	2 (for extension modules)
Connection method	Push-in connection

Note on the connection method	Single Pair Ethernet (SPE) 10BASE-T1L, shielded
Transmission speed	10 Mbps
Transmission length	max. 350 m (between two devices)

USB

Number of interfaces	2 (Use as connection for Catan control panel and I/O devices, USB1 can also be used as a USB Ethernet gadget)
Connection method	USB 2.0 full speed, socket type C
Transmission speed	max. 12 Mbps

Dimensions

Dimensions without display connected

Width	89.7 mm
Height	60.7 mm
Length	107.6 mm

Dimensions with display connected

Width	89.7 mm
Height	68 mm
Length	107.6 mm

Material specifications

Color (Lower housing part)	gray (RAL 7042)
Color (Upper housing part)	light gray (RAL 7035)
Material ()	Polycarbonate (Housing)
Flammability rating according to UL 94	V0

Mechanical tests

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	: 5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	: 30g
Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27	: 10g

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-5 °C ... 50 °C (up to 3000 m above mean sea level)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above mean sea level)
Air pressure (storage/transport)	58 kPa ... 106 kPa (up to 4500 m above mean sea level)

EMC data

Electromagnetic compatibility	Conformance with EMC directive
Conformance with EMC directives	Immunity test in accordance with EN IEC 63044-5-2 Transient overvoltage (surge) Criterion B
	Immunity test in accordance with EN IEC 63044-5-2 Fast transients (burst) Criterion A, ±500 V,Criterion B, ±1000 V
	Immunity test in accordance with EN IEC 63044-5-2 Electromagnetic fields Criterion A, Field intensity: 10 V/m
	Immunity test in accordance with EN IEC 63044-5-2 Electrostatic discharge (ESD) Criterion A, ±4 kV contact discharge, ±8 kV air discharge
	Immunity test in accordance with EN IEC 63044-5-2 Conducted disturbance Criterion A, Test voltage 10 V
	Noise emission test in accordance with EN IEC 63044-5-2 Class B

Mounting

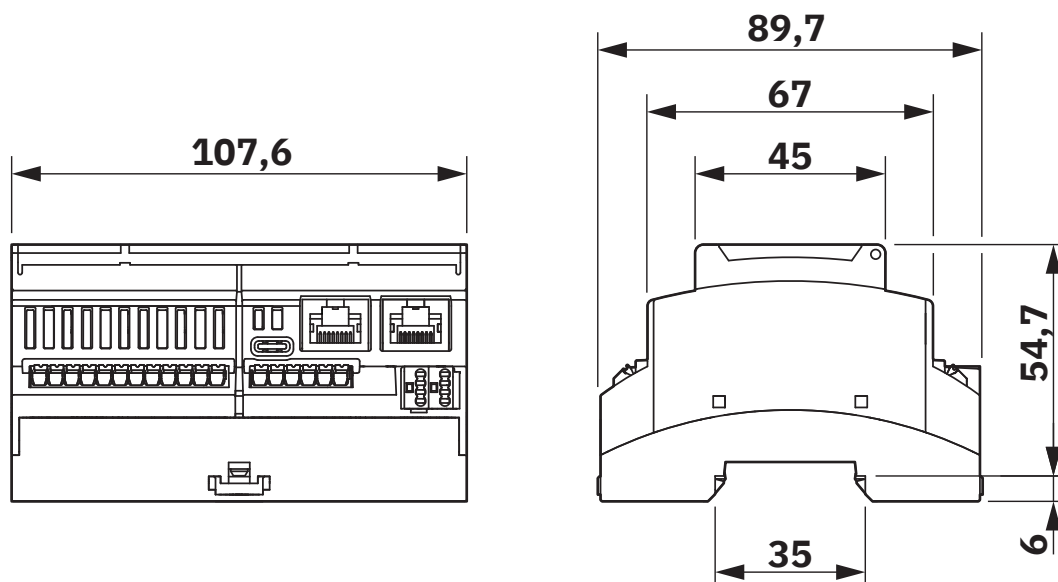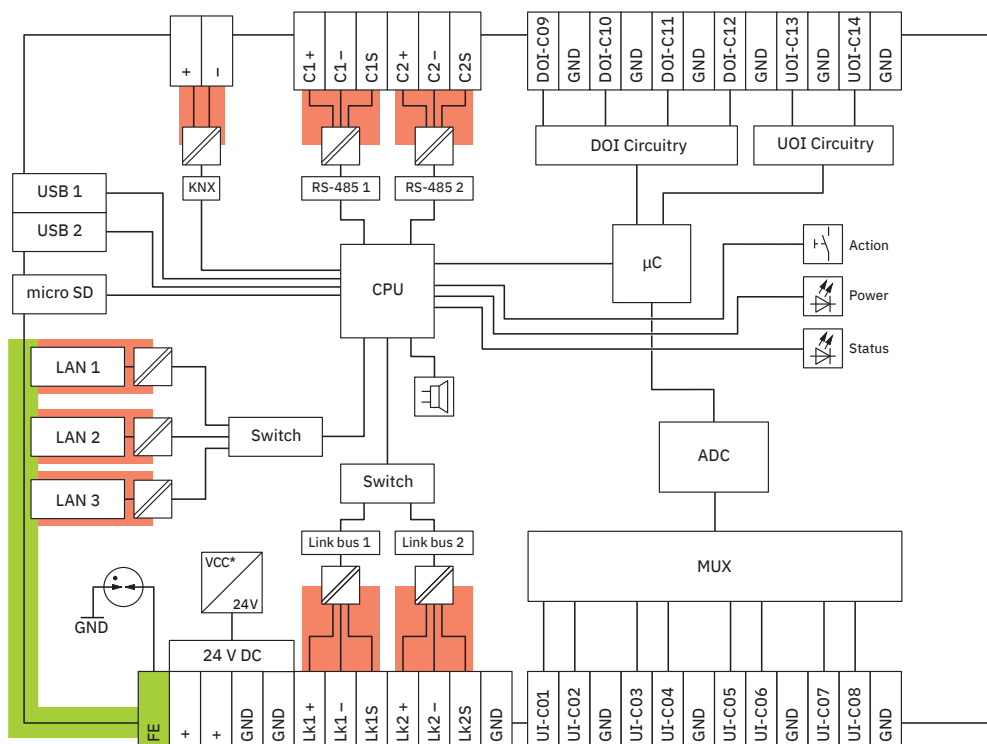| Mounting type	DIN rail mounting (in accordance with DIN EN 60715)
Mounting position	horizontal
	Alternative mounting positions are possible, but can lead to a reduction in thermal performance.

Drawings

Dimensional drawing

107,6

89,7

67

45

54,7

6

35

Dimensions

Block diagram

Internal wiring of the terminal points

Approvals

💡 To download certificates, visit the product detail page: https://www.phoenixcontact.com/au/products/1371432

cULus Listed
Approval ID: E238705

Classifications

ECLASS

ECLASS-13.0	27242207
ECLASS-15.0	27242207

ETIM

ETIM 9.0	EC000236

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead titanium zirconium oxide(CAS: 12626-81-2)
	Lead(CAS: 7439-92-1)

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