SKIA

SK18Cx BACnet Controller

Models:

SK18CM	2 x DI, 8 x UI, 2 x DO, 6 x UO – BACnet MS/TP
SK18CE	2 x DI, 8 x UI, 2 x DO, 6 x UO – BACnet IP
SK18CD	2 x DI, 8 x UI, 2 x DO, 6 x UO – BACnet MS/TP and BACnet IP

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Overview

The Innotech SKIA is a digital, programmable controller, with native BACnet connectivity, that can control a variety of residential, industrial and commercial systems.

Featuring a mix of digital and universal inputs and outputs the SK18Cx provides a highly flexible solution for common medium point count, and distributed point applications.

SKIA controllers are fully programmable via Innotech Focus graphical programming interface software.

Features

- 18 Point Controller with the following I/O types:
  - 2 x Digital Input (DI)
  - 8 x Universal Input (UI)
  - 2 x Digital Output (DO)
  - 6 x Universal Output (UO)
- 1 x RS-485 terminal *(SK18CM & SK18CD Only)*
- 2 x RJ45 Ethernet – In Switch Mode *(SK18CE & SK18CD Only)*
- Dedicated Innotech Smart Sensor (ISS) communications port
- Colour coded pluggable terminals for easy identification
- Communication LEDs for all interfaces
- Status LED
- Easily programmed with Innotech Focus software
- DIN rail mountable

Applications

The SKIA Controller is a small point count device ideally suited to HVAC, Building and Energy Management, automation, and process control where it can monitor and control a variety of external plants and equipment.

The SKIA provides a high point count density in a compact form factor and is suited to distributed point applications where available space may be restricted.

The creation of control logic strategies is achieved with Innotech Focus engineering software. Focus' user friendly graphical programming interface provides power tools for the user to create a project-wide control strategy.

Typical applications include:

- Air conditioning and heating systems
- Lighting control
- Monitoring device
- Distributed I/O points controller
- Cold/Freezer Rooms

Installation

The controller should be installed in an environment that does not exceed the maximum operating parameters of the device. It should be mounted in a clean and dry environment free of vibration, and properly ventilated.

The controller should be mounted horizontally on a DIN rail in cabinets approved for switchgear or industrial control equipment.

Wiring should be implemented in accordance with Innotech connection diagrams and installation instructions as well as local bylaws. Refer to your local distributor for more information.

Connect the 24VAC or 24VDC supply to the correct terminals on the controller. Maximum terminal cable entry is 1.5mm^2.

Model Specifications

Controller Name	SK18CM	SK18CE	SK18CD
Digital Inputs	2	2	2
Universal Inputs	8	8	8
Digital Outputs	2	2	2
Universal Outputs	6	6	6
Block Cycle Time	500ms	500ms	500ms
RS-485 Ports	1	-	1
Ethernet Ports	-	2	2
USB-Mini B (PC Link)	Yes	Yes	Yes
Innotech Smart Sensor Support	1	1	1
Max. Power per Output	0.8W	0.8W	0.8W
Max. IO System Power	6.8W	6.8W	6.8W

General Specifications

PROCESSOR	
CPU	ARM Cortex M7
Processor Speed	550MHz

POWER SUPPLY REQUIREMENTS	
Power Input	24VAC or 24VDC ±10%
Recommended Transformer Ratings	20VA min. (plus I/O load)
Power Consumption	6W (plus I/O load)

The operating voltage must meet the requirements of Safety Extra Low Voltage (SELV) to EN60730. The transformer used must be a class 2 safety transformer in compliance with EN60742 and be designed for 100% duty. It must also be sized and fused in compliance with local safety regulations.

ENVIRONMENTAL	
Operating Temperature	-20° to 70°C non-condensing -4° to 158°F non-condensing
Storage Temperature	-40° to 80°C non-condensing -40° to 176°F non-condensing

INSTALLATION ORIENTATION

Horizontally mounted DIN rail on a vertical surface.
Allow a minimum 20mm (40mm recommended) gap between the end of the terminal plug and cable ducts.

ENCLOSURE

Housed in a rectangular case suitable for DIN rail mounting. Housing moulded from flame retardant plastics recognised by UL as UL94-V0.

Colour	Dark Grey

DIMENSIONS AND WEIGHT

W 195mm x H 111.8mm x D 40.0mm (7.68” x 4.40” x 1.57”)

SK18CD weight with all terminals fitted approx. 300g (0.66lbs)

CLOCK	
Internal Real Time Clock	Not Battery Backed
BACnet Time Sync	Receive Only
ISS Time Sync	For Stand-alone Applications

APPROVALS AND LISTINGS

EN 61326:2021 (IEC 61326:2020) Class B for CE, UKCA and RCM Labelling

Title 47 CFR, Part 15, Subpart B, Class B and ISED, ICES-001, Class B for FCC and ICES Marking

UL Listed to UL916, File Numbers PAZX.E242628, PAZX7.E242628

RoHS3

Listed by BTL (B-ASC profile)

Ingress Protection Rating – IP2X

COMMUNICATIONS	
Ethernet	100 Base-T Dual Ports - Switch Mode Only
RS-485 Comms	Up to 115kbps (with EOL)
ISS Comms	Innotech Smart Sensor Comms

PROTOCOLS		
Ethernet	BACnet IP	Default IP - 192.168.2.100
RS-485	BACnet MS/TP	

DEFAULT ADDRESS	
BACnet	2200

CONFIGURING / MONITORING / COMMUNICATIONS	
USB Device (Mini-B Type)	Innotech Net Comms Fixed #1 Address
Data Logging	Not Supported

LED INDICATION		
Comms LEDs for RS-485		Red – TX, Green - RX
Heartbeat LED	Status OK	Green Flash
	Fault	Red Flash
	Request	Orange Flash
	Power Fail	Slow Orange Flash

Request LED shown when upgrading, config transfer, initialising etc.

Inputs & Outputs

DIGITAL INPUT	
Max Pulse Count Frequency	1kHz
Max Digital Input Response Rate	½ block cycle rate
Max Digital Input Voltage	24V AC or DC
Digital Switching	On > 5.5VDC Off < 2VDC
Digital Mode	Contact or Voltage

UNIVERSAL INPUTS	
Digital Input Configuration	
Max Digital Input Response Rate	½ block cycle rate
Max Digital Input Voltage	24V AC or DC
Digital Switching	On > 4VDC Off < 2VDC
Digital Mode	Contact or Voltage

Sensor Input Configuration	
Supports	Thermistor High, Thermistor Low
Range	0 to 5VDC
Resolution	16bit @ 65536 steps
Accuracy	±1.5% of reading @ 20°C (68°F)
Drift	±150ppm/°C

Voltage Input Configuration	
Range	0 to 10VDC
Resolution	16bit @ 65536 steps
Max Input Voltage	24V AC or DC
Accuracy	±1.5% of reading @ 20°C (68°F)
Drift	±150ppm/°C

DIGITAL OUTPUT	
Switch Mode High Side Switching	On = 12VDC Off = Open
Inrush and short circuit protection	Self-Resetting Thermal Fuse
Switch Current	140mA
Maximum Available Power	70mA

UNIVERSAL OUTPUTS	
Voltage Output Configuration	
Range	0VDC to 10VDC
Resolution	0.05% @ 2000 steps
Impedance	~100Ω
Maximum Current	20mA
Accuracy	±1.5% of reading @ 20°C (68°F) & R_{load} >10kΩ
Drift	±150ppm/°C

Pulse Width Modulation (PWM) Output Configuration	
Frequency Range	12.5Hz
High Side Switching	On = 12VDC Off = Open
Duty Cycle Resolution	0.05%
Duty Cycle Range	0 to 100%

Digital Output Configuration	
High Side Switching	On = 12VDC Off = Open
Inrush and short circuit protection	Self-Resetting Thermal Fuse
Switch Current	140mA
Maximum Available Power	70mA

FCC CLASS B & ISED NOTICE

This device complies with Part 15 of the FCC Rules and with the ISED Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

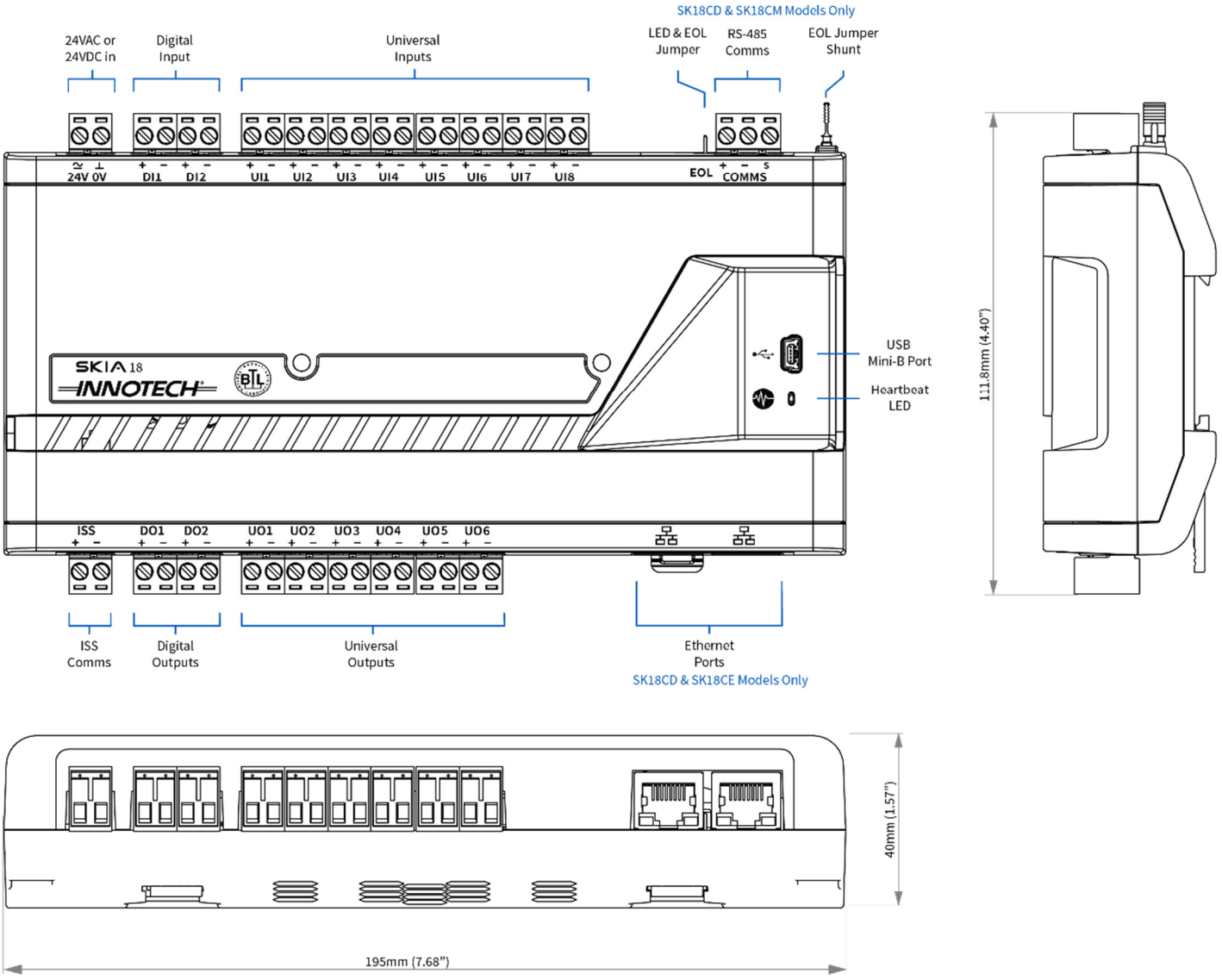
(1) L'appareil ne doit pas produire de brouillage;
(2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Note – *This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:*

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: (Refer to Section 15.21 of 47 CFR)
Any changes or modifications not expressively approved by Innotech could void the user's authority to operate this equipment.

SKIA SK18CxController Dimensions & Parts Identification



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