

SOFREL B4TH

Control, automation, and remote management of heating, ventilation, and air conditioning systems - BACnet native



USES & BENEFITS

- **A controller dedicated to HVAC applications**
 - Intelligent management of heat or air production and distribution
 - Remote adjustment of setpoints and occupancy schedules
 - Automatic calculation and control of consumption ratios
 - Guaranteed user comfort
 - Complies with the requirements of the «Tertiary and BACS» decrees
- **Installation security**
 - Protection against cyberattacks
 - Permanent monitoring
 - Alerts for consumption deviations and malfunctions
 - Garantie du taux de renouvellement d'air neuf
- **Économie d'exploitation**
 - Optimisation des consommations énergétiques
 - Pilotage du chauffage selon l'occupation des bâtiments
 - Limitation des interruptions de service
 - Guaranteed fresh air renewal rate

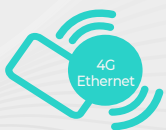
AN ECOSYSTEM THAT FACILITATES AND SECURES THE OPERATION OF SOFREL B4TH

- **VPN server** on the public internet (SOFREL SG4000)
- **Automated cybersecurity** through the SOFREL ecosystem
 - SG4000, B4TH-Tools, S4-Manager, centralized management of authentication certificates and fleet management via LX CONNECT
- **Centralized administration** of local workstations (SOFREL S4-MANAGER)
 - Backup of SOFREL B4TH configurations
 - Management of individual user accounts
 - Access badge management
- **Centralization and use of data** to LX SCADA or SCADA systems on the market

PRODUCT ADVANTAGES

- **Natively connected** with a built-in 4G modem and Ethernet port
- **Designed for HVAC applications** (M-Bus, Modbus, BACnet IP protocols, automation workshop included, Heating and Ventilation libraries)
- **Simplicity** : intuitive graphical configuration, HTML5 web server with integrated configuration tool
- **Fiabilité et robustesse** with a product designed and manufactured in France
- Ongoing **assistance** and **support** from the LACROIX teams

MAIN FEATURES



Modem integrated



Emergency assistance battery



Guarantee



Simplicity



S4-Manager



HTML



Cybersecurity

Technical and functional specifications

Hardware description	
Integrated inputs/outputs	Version 8AIT° - 8DI - 4AO V - 4DO or 4AIT° - 4DI - 2AO V - 2DO
USB	USB-A and USB-B ports
Power	External: 24 V DC - Backup: 12 V battery
Connectivity	spring-clamp or screw terminal block
Dimensions W x H x D	195 x 125 x 63 mm
Operating temperature	-20 to +70 °C
Extension modules (optional)	Up to 3 COM modules: RS232 / RS485(i) / EDF
	Up to 10 expansion modules (MEXT): 16DI / 8DI / 8AIT° / 4AIT° / 8DO / 4DO / 4DO+ / 8AI mA / 4AI mA / 8AO / 4AO / 8AIV / 4AIV Bus extension module: EXT
Technical specifications	
Inputs / Outputs	DI input: TOR: No / Nf - Counting: 250 Hz AI mA input: 4-20mA sensor (remote power supply) - Accuracy 0.1% (25°C) AI-T° input: NI1000 probe Range -50 to 150°C - Accuracy: ±0.8°C · PT1000 probe Range -50 to 150°C - Accuracy: ±2°C · Range -50 to 400°C - Accuracy: ±1.35°C AI-V input: 0/10V signal DO output: Breaking capacity: 3.6 VA (24V max. - 150mA max.) - 1 "watchdog" output DO+ output: 60VA (24V max. -1A max. continuous / 2.5A max. pulse) AO-V output: 0-10V signal · AO-AV output: 0-20mA or 0-10V signal
Communications	BACnet IP - 4G (integrated modem, depending on the model) or Ethernet 100BT (RJ45 socket) Modbus TCP or RTU M-Bus (up to 60 M-Bus meters) Remote information link Distribution customer (Enedis type) LoRaWAN® gateway
Functional description	
BACnet IP	B-BC : BACnet Building Controller - B-BBMD : BACnet Broadcast Management Device
BACnet objects	Up to 2,000 BACnet objects (excluding Trendlog, Calendar/Schedule, Notification Class): Binary (Input/Output/Value) / Analog (Input/Output/Value) Multistate Value / Accumulator
Trendlog	Up to 2,000 TrendLog objects - Archive depth of 1.5 million archives or 1 year
Calendar/Schedule	Up to 20 Schedule objects - Up to 20 Calendar objects
Alarm reporting	Support for BACnet alarms/events Alarm reporting via SMS/email: Trigger: Appearance/Disappearance of logical information configured as an alarm Configurable alarm sequence (SMS, email) - 20 sequences of 14 recipients Reporting schedule management - 20 schedules (10 exceptions) - substitution schedule
Automatisme	Workshop to IEC 61131-3 standard Languages: Ladder - ST - FBD - SFC (Grafcet) Configurable cycle time (20 ms by default) - Program memory: 2 MB Business function library: "Heating," "Ventilation" (central air handling application)
Web server	HTML 5 - Operation on tablets, PCs, smartphones (remote and local) Visualization of synoptics and calendars/schedules Curve plotting and archive export in CSV format Equipment operation diagnostics
Integrated cybersecurity and ecosystem	
Configuration tool	B4TH-Tools
User authentication	Individual accounts with login and password that can be managed remotely (SOFREL S4-Manager) - Active Directory connection
Authentication of connected systems	Mutual authentication via electronic certificates with the SOFREL ecosystem (excluding BACnet IP connection) Management of multiple environments
Data confidentiality and integrity	Encryption of communications with the SOFREL ecosystem (excluding BACnet IP connection) SOFREL SG4000 VPN server Signature of configurations and software
Traceability	Operating log - Hardware status - Syslog update
LX CONNECT	
Configuration tool	Automated firmware and security patch updates Scheduled bulk software version updates
Automated cybersecurity	Automated updating of certificates generated by Microsoft PKI
Normes	
Electrical safety	EN 61010-1: Electric shock, energy transfer hazard, fire, mechanical and thermal hazards
Telecommunications	EN 301 511 (2G) - EN 301 908-1/-2/-13 (3G/4G) - EN 301 908-13 (4G)
Cybersecurity	RED DA : hEN 18031-1
Electromagnetic compatibility	EN 301489-1 / EN 301489-52 / 61326-1
Environmental	WEEE Directives: 2012/19/EU