

B465 Universal Dual Path Communicator

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Invented for life



- Compatible with any control panel using Contact ID, SIA, Pulse 3/1 or Pulse 4/2 communication formats (auto detecting)
- No control panel reprogramming required to install
- Supports Ethernet directly and optional plug-in cellular communication technologies in single, or multi-path configurations
- Supports four configurable inputs and three configurable outputs
- Approved for Commercial Fire/Burglary applications as sole, primary, or secondary communication path

The B465 Conettix Universal Dual Path Communicator converts the Public Switch Telephone Network (PSTN) digital dialer, or dry contact outputs from an intrusion/fire control panel to an IP signal for transmission over the Ethernet or cellular network. The B465 Conettix Universal Dual Path Communicator is UL 864 10th Edition approved per NFPA 72 version 2013.

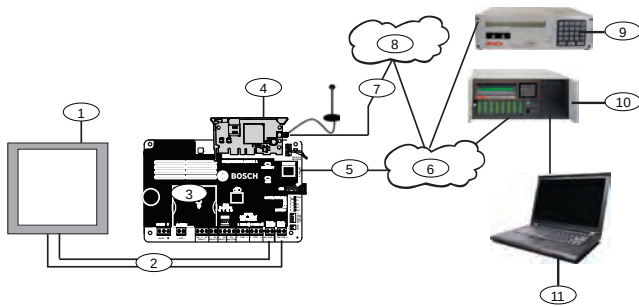
The module can use its built-in Ethernet connection, and/or an optional Conettix plug-in cellular module (B440/B441/B442/B443) to send reports to the central station receiver.

Automation programming for the supported control panel remains unchanged with the installation of the B465 module, thus simplifying the installation process. This allows for a smooth transition from the PSTN realm into IP. All messages generated internally by the B465 are shown in Contact ID format at the central station.

The module can be powered from a 16.5 VAC transformer or 24 VDC power supply.

System overview

The B465 simulates dial tone and line voltages when the digital dialer has a report to send. The module simulates a PSTN connection to the central station. The module decodes the control panel's PSTN dialer report and sends the decoded reports by IP connection using Bosch's Conettix Protocol to the Conettix D6600, D6100IPv6, or D6100i Communication Gateway/Receiver (referred to as the receiver). When the receiver acknowledges receipt of the message, it sends an acknowledgement report to the module which in turn sends an acknowledgement to the connected control panel. This process maintains true end-to-end security.

**Callout — Description**

1 —	Intrusion/fire control panel
2 —	Control panel phone line connections
3 —	B465 Conettix Universal Dual Path Communicator
4 —	B44x plug-in cellular communicator
5 —	Ethernet connection (LAN/WAN)
6 —	Internet
7 —	Cellular communication to cellular carrier
8 —	Cellular carrier network
9 —	Conettix receiver/gateway
10 —	Conettix receiver/gateway
11 —	Monitoring center automation

Functions**PSTN inputs (2)**

When the control panel's PSTN dialer sends a message, the module simulates a PSTN connection to the central station. The module connects to the host control panel through either one or both of the Phone Line inputs. Both Panel Line 1 and Panel Line 2 of the module run 28 VDC and support Contact ID (4 and 10 digit account codes), Pulse 3/1, Pulse 4/2, and SIA communication formats. The B465 is setup to auto detect the communication format which eliminates programming steps.

IP Communication options

The module uses the on-board Ethernet connector, and/or optional B440 Conettix Plug-in Communicator, Cellular (3G), B441 Conettix Plug-in CDMA Cellular Communicator, B442 Conettix Plug-in GPRS Cellular Communicator, or B443 Conettix Plug-in HSPA+ Cellular Communicator to communicate with a Conettix D6600, Conettix D6100i or a Conettix D6100IPv6 Communications Receiver/Gateway. Using Conettix IP communication protocol offers a secure path that includes anti-replay/anti-substitution features and provides enhanced security with up to AES 256-bit encryption.

The module supports Domain Name System (DNS) for central station communication. DNS provides ease of use, eliminating the need to use static IP addresses as your reporting destination, and accommodates a simple solution for central station disaster recovery.

Direct wire inputs

The B465 provides four on-board inputs. Each input functions independently and does not interfere with the operation of the others. The module monitors the input loops for normal, shorted, or open conditions between an input terminal and any of the input common terminals. Inputs are disabled by default so no EOL resistors are required until activated.

These four inputs on the B465 connect to dry contact outputs on the control panel and generate Contact ID reports instead of using a phone line connection/or in addition to using the control panel phone connection.

The available functions are:

- Panel System Trouble
- Panel AC Fail
- Panel Battery Trouble
- Fire Alarm
- Fire Trouble
- Burg Alarm
- Burg Trouble
- Fire Supervisory

Each input allows the use of dry contacts or powered outputs up to 30 VDC if needed. The inputs use 2.2K EOLs to monitor the dry contact outputs when connected to dry contacts. The inputs recognize the following thresholds when using dry contacts: 2.0 to 3.0 VDC = Normal, 3.7 to 5.0 VDC = Open, 0.0 to 1.3 VDC = Short.

Outputs

Includes three programmable output relays rated at 30 VDC, 0.1 A. These outputs can be used to show the status of the B465 or they can be connected to the control panel zone inputs for reporting B465 system faults. The three outputs consist of RELAY 1, RELAY 2, and RELAY 3.

- RELAY 1 is active (energized) once the B465 is running. If the B465 detect a problem or loses power, RELAY 1 de-energizes, which can be used to indicate a system trouble on the local control panel's zone inputs, if required. Depending on the configuration required to create a system trouble on the control panel, the installer needs to use either the NO and COM or the NC and COM connections. Refer to the control panel manual for the required zone configuration to obtain the proper input response.
- RELAY 2 is a normally open (NO) relay with contacts that close when the desired function programmed is detected.
- RELAY 3 is a normally open (NO) relay with contacts that close when the desired function programmed is detected.

Input power supply

The B465 uses a 16.5 VAC transformer or 24 VDC voltage for its primary power source. The approved transformers are the D1640 plug-in transformer, D1640-CA plug-in transformer, or D1640-120WI transformer. The B465 can optionally be powered from 24 VDC power source applied to the AC terminals.

B465 modular connections

The B465 module has three modular connections.

- **Cellular plug-in connector.** Connects to a cellular communication module.
- **Tamper connector.** Connects the ICP-EZTS Dual Tamper Switch for monitoring the enclosure cover.
- **External Annunciator connector.** Connects to the optional B46 module.

On-board LED Indicators

The B465 has a total of ten on-board LEDs that indicate the module's status (SYSTEM TROUBLE, TX, RX, POWER, BATTERY, HEARTBEAT, Panel Line 1 (ACT), Panel Line 2 (ACT), 100BASE-T and ETHERNET LINK).

B46 External Annunciator (Optional)

The B46 is an optional module that provides external module LED and sounder status when installed in a supported enclosure. The module has 3 LEDs (System Trouble, Power, and Battery) which illuminate through the B46 LED cover. The LED cover snaps into a knockout in the enclosure door. The B46 is compatible with the B10, B10R, B11, B11R, and D8103 enclosures.

Certifications and approvals

Region	
USA	UL 365 - Police Station Connected Burglar Alarm Units and Systems
	UL 609 - Local Burglar Alarm Units and Systems
	UL 636 - Holdup Alarm Units and Systems
	UL 864 - Control Units and Accessories for Fire Alarm Systems (Commercial Fire)
	UL 985 - Household Fire Warning System Units
	UL 1023 - Household Burglar Alarm System Units
	UL 1076 - Proprietary Burglar Alarm Units and Systems
	UL 1610 - Central Station Burglar Alarm Units
	NIST FIPS 197 AES Certification (IP Communications)
	CSFM approved
Canada	FCC Part 15 Class B
	CAN/ULC S303 - Local Burglar Alarm Units and Systems
	CAN/ULC S304 - Signal Receiving Centre and Premise
	CAN/ULC S545 - Residential Fire Warning System Control

ICES-003 - Information Technology Equipment (ITE)

ULC-ORD C1023 - Household Burglar Alarm System Units

ULC-ORD C1076 - Proprietary Burglar Alarm Units and System

Region	Certification	
USA	UL	20150807-S1871
	CSFM	7300-1615:0253
	FDNY-CoA	6214

Parts included

Quantity	Component
1	B465 Conetrix Universal Dual Path Communicator
1	Hardware pack
1	Quick Start Guide (hardcopy)
1	Wiring label (hardcopy)
1	Literature (mini-CD)

Technical specifications

Properties

Dimensions	4.40 in x 6.90 in x 1.50 in (111 mm x 175 mm x 38 mm)
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Environmental considerations

Relative humidity	5% to 93% at +32°C (+90°F)
Temperature (operating)	0°C to +49°C (+32°F to +120°F)
Operational use	Indoor use only

Power requirements

Standby battery current	Battery input: B465: Idle 150 mA; Alarm 230 mA
24 VDC input current	24 VDC input: B465: Idle 120 mA; Alarm 160 mA

Wiring

Terminal wire size	12 AWG to 22 AWG (2.0 mm to 0.65 mm)
Transformer secondary wiring length	15 m (50 ft) maximum unshielded wire
Control panel phone line wiring	100 Ω loop resistance, maximum unshielded wire

Input loop wiring	100 Ω loop resistance, maximum unshielded wire
Ethernet wiring	100 m (328 ft) maximum using Cat 5 wire or better

Compatibility

Compatible PSTN input formats	Ademco Contact ID (SIA DC-05) +10 digit account codes Pulse 3/1, 3/1 Checksum (2300 Hz ACK Tone) Pulse 3/1, 3/1 Checksum (1400 Hz ACK Tone) Pulse 4/2 (2300 Hz ACK Tone) Pulse 4/2 (1400 Hz ACK Tone) SIA (SIA8, SIA20) – 110 and 300 baud
Receivers	D6600 D6100i D6100IPv6
Cellular	B440 Conettix Plug-in Communicator, Cellular (3G) B441 Conettix Plug-in CDMA Cellular Communicator B442 Conettix Plug-in GPRS Cellular Communicator B443 Conettix Plug-in HSPA+ Cellular Communicator
Modules	B46 External Annunciator
Enclosures	B10 Medium Control Panel Enclosure B10R Medium Control Panel Enclosure (Red) B11 Small Control Panel Enclosure B11R Small Control Panel Enclosure (Red) D8103 Universal Enclosure D8108A Attack Resistant Enclosure
Transformers	D1640 transformer 120 VAC input, 16.5 VAC, 40 VA output plug-in D1640-CA transformer 120 VAC input, 16.5 VAC, 40 VA output plug-in D1640-120WI transformer 120 VAC input, 16.5 VAC, 40 VA output wired in

Ordering information

B465 Universal Dual Path Communicator

Compatible with control panels using a standard digital dialer format. Provides end-to-end security. Allows digital dialer control panels to work over an IP network (such as LAN, WAN, or the Internet).
Order number **B465**

Accessories

B46 External Annunciator

An optional module that uses audio and LEDs to show System Trouble, Power, and Battery status through a knockout on select enclosure doors
Order number **B46**

B10 Medium Control Panel Enclosure

White, steel enclosure. Accepts an optional lock and tamper switch. Measures 35.6 cm x 31.8 cm x 7.6 cm (14 in x 12.5 in x 3 in).
Order number **B10**

B10R Medium Control Panel Enclosure (Red)

Red, steel enclosure. Accepts an optional lock and tamper switch.
Order number **B10R**

B11 Small Control Panel Enclosure

White, steel enclosure. Accepts an optional lock and tamper switch. Measures 27.8 cm x 25.9 cm x 8.32 cm (10.9 in x 10.2 in x 3.3 in).
Order number **B11**

B11R Small Control Panel Enclosure (Red)

Red, steel enclosure. Accepts an optional lock and tamper switch. Measures 27.8 cm x 25.9 cm x 8.32 cm (10.9 in x 10.2 in x 3.3 in).
Order number **B11R**

D8103 Enclosure

Grey steel enclosure measuring 41 cm x 41 cm x 9 cm (16 in. x 16 in. x 3.5 in.).
Order number **D8103**

D8108A Attack Resistant Enclosure

Grey steel enclosure measuring 41 cm x 41 cm x 9 cm (16 in. x 16 in. x 3.5 in.). UL Listed. Includes lock and key set. B520, B4512, and B5512 require the B12 mounting plate.
Order number **D8108A**

B12 Mounting Plate for D8103 Enclosure

Required for mounting select control panels and other devices in D8103, D8108A, D8109, or BATB Battery Box enclosures.
Order number **B12**

D101 Lock and Key Set

Short-body lock set with one key supplied. Uses the D102 (#1358) replacement key.
Order number **D101**

ICP-EZTS Dual Tamper Switch

Combination tamper switch with a wire loop for additional tamper outputs.
Order number **ICP-EZTS**

D1640 Transformer

System transformer rated at 16.5 VAC, 40 VA.
Order number **D1640**

D1640-CA Transformer

For use in Canada. System transformer rated at 16.5 VAC, 40 VA.
Order number **D1640-CA**

B440 Conettix Plug-in Cellular Communicator

Dual technology 3G EVDO/CDMA cellular communicator for secure two-way IP communication on the Verizon Wireless network.

Order number **B440**

B441 Conettix Plug-in Cellular Communicator

Multi-function CDMA cellular communicator for secure two-way IP communication on the Verizon Wireless network.

Order number **B441**

B442 Conettix Plug-in GPRS Cellular Communicator

Multi-function cellular communicator that provides IP communication over a (GPRS) cellular network.

Order number **B442**

B443 Conettix Plug-in HSPA+ Cellular Communicator

Multi-function 3G/4G cellular communicator providing IP communication over a GPRS/EDGE/UMTS/HSPA+ cellular network.

Order number **B443**

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