

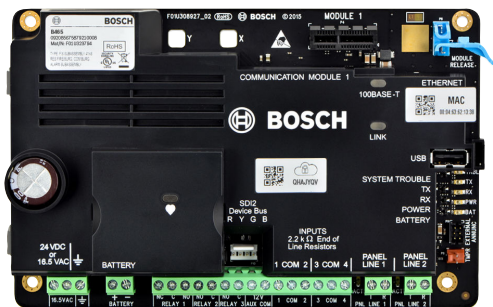
B465 Universal Dual Path Communicator

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BOSCH

Invented for life



- ▶ Compatible with control panels using Contact ID, SIA, Pulse 3/1 or Pulse 4/2 communication formats, Modem II, Modem IIe, and Modem IIIa² (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.

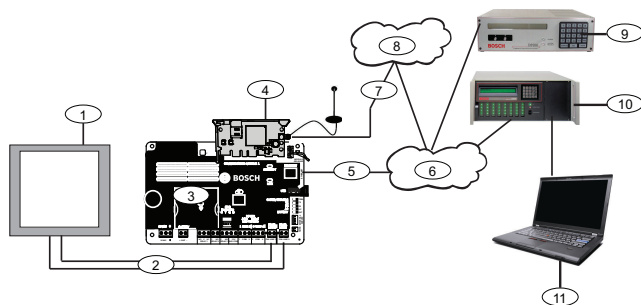
The module can use its built-in Ethernet connection, and/or an optional Conettix plug-in cellular module (B440/B441/B442/B443) /B444 to send reports to the central station receiver.

Configuration of the automation software for the supported control panel remains unchanged with the installation of the B465 module, 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 Cellular Communicator, B441 Conettix Plug-in CDMA Cellular Communicator, B442 Conettix Plug-in GPRS Cellular Communicator, B443 Conettix Plug-in HSPA+ Cellular Communicator or B444 Conettix Plug-in 4G VZW LTE 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.

Remote Connect Service Support (North America only)

Remote Connect Service enables a secure control panel connection to Bosch's remote programming software (RPS) using Bosch Cloud services. The service allows a secure TLS connection to a control panel without specific port and router settings and without a static IP or DNS. You can connect using an Ethernet or Cellular connection.

Remote Programming Software (RPS)

Use this option for remote module configuration when using Remote Programming Software (RPS). Remote configuration occurs through USB, Ethernet, or Cellular IP connection.

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.

Account Number Substitution

The B465 can optionally replace the account number in all received phone events from either phone line with the account number configured in Alternate Account Number:

- Substitute Account Number. Use this option to enable or disable the feature.
- Alternate Account Number. Use this option to set up an alternate account number.

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.

Region	Regulatory compliance/quality marks	
USA	UL	
	UL	UL 365 - Police Station Connected Burglar Alarm Units
	UL	UL 609 - Standard for Local Burglar Alarm Units and Systems
	UL	UL 636 - Holdup Alarm Units and Systems
	UL	UL 864 - Standard for Control Units and Accessories for Fire Alarm Systems
	UL	UL 985 - Household Fire Warning System Units
	UL	UL 1023 - Household Burglar Alarm System Units
	UL	UL 1076 - Proprietary Burglar Alarm Units and Systems
	UL	UL 1610 - Central Station Burglar Alarm Units
Canada	CSFM	7300-1615:0253
	CSFM	California Office of The State Fire Marshall
	FCC	Part 15 Class B
	FDNY-CoA	6214
	ULC	CAN/ULC S303 - Local Burglar Alarm Units and Systems
	ULC	CAN/ULC S304 - Standard for Signal Receiving Center and Premise Burglar Alarm
	ULC	CAN/ULC S545 - Residential Fire Warning System Control Units
	ULC	ULC-ORD C1023 - Household Burglar Alarm System Units
	ULC	ULC-ORD C1076 - Proprietary Burglar Alarm Units and Systems
	ULC	CAN/ULC S559 - Fire Signal Receiving Centres and Systems
	IC	ICES-003 - Information Technology Equipment (ITE)

Certifications and approvals

Region	FCC Details
USA	NIST FIPS 197 AES Certification (IP Communications)

Installation/configuration notes**Compatibility**

Compatible PSTN input formats	Modem II Modem IIe Modem IIIa ² 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 Cellular Communicator B441 Conettix Plug-in CDMA Cellular Communicator B442 Conettix Plug-in GPRS Cellular Communicator B443 Conettix Plug-in HSPA+ Cellular Communicator B444 Conettix Plug-in 4G VZW LTE 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

Parts included

Quantity	Component
1	B465 Conettix 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

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 for B465**

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 Steel enclosure, medium, white

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 Enclosure, medium, red

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

B11 Steel enclosure, small, white

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 Enclosure, small, red

Red, steel enclosure. Accepts an optional lock and tamper switch.

Order number **B11R**

D8103 Steel enclosure, large, grey

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, large, grey

Grey steel enclosure measuring 41 cm x 41 cm x 9 cm (16 in. x 16 in. x 3.5 in.). UL Listed. Includes a lock and key set.

Order number **D8108A**

B12 Mounting plate for D8103 enclosure

Required for mounting select control panels and other devices in B8103, D8103, D8108A, D8109, and BATB Battery Box enclosures.

Order number **B12**

D101 Enclosure lock and key set

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

Order number **D101**

ICP-EZTS TAMPER SWITCH-DUAL

Combination tamper switch with a wire loop for additional tamper outputs.

Order number **ICP-EZTS**

D1640 Transformer plug-in, 16V 40VA

System transformer rated at 16.5 VAC, 40 VA.

Order number **D1640**

D1640-CA 16VAC 40VA xfmr Canada

For use in Canada. System transformer rated at 16.5 VAC, 40 VA.

Order number **D1640-CA**

B440 Plug-in cellular module, VZW 3G, hot

The B440 family of communication modules provides secure two-way IP communication on the Verizon Wireless network.

Order number **B440**

B441 Plug-in cellular module, VZW CDMA

The B441 family of communication modules provides secure two-way IP communication on the Verizon Wireless network.

Order number **B441**

B442 Plug-in cellular module, GPRS

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

Order number **B442**

B443 Plug-in Cellular, HSPA+ (3G+)

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

Order number **B443**

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