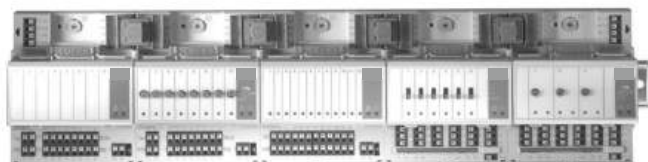


Panel Bus I/O Modules

PRODUCT DATA



GENERAL

The Honeywell Panel Bus I/O Modules communicate via the Panel Bus.

The pluggable Honeywell Panel Bus I/O modules consist of a terminal socket and a removable electronic module, allowing the socket to be mounted and wired before the electronic module is installed. All such electronic modules can be swapped out without disrupting the power and bus connections: Simply unplug the “old” and insert the “new” module.



WARNING

Risk of electric shock or equipment damage!

- ▶ Do not touch any live parts in the cabinet.
- ▶ Disconnect the power supply before you start to install the control system. More than one disconnect switch may be required to de-energize the system.
- ▶ Do not reconnect the power supply until you have completed the installation.
- ▶ Unused terminals must be closed (by completely screwing in the terminal screws), thus preventing the accidental touching of “live” parts.

The mixed Honeywell Panel Bus I/O modules offer a mix of 34 inputs and outputs in a compact housing.

Software updates, configuration, and commissioning are all done automatically by the controller for all Panel Bus I/O Modules.

The Panel Bus I/O Modules are addressed manually by adjusting their HEX switches.

The Panel Bus I/O Modules may be used with any CPU supporting Panel Bus communication (e.g., the XL800, CPO-PC-6A, etc.).

FEATURES

- Plug-and-play functionality for easy maintenance.
- Pluggable Panel Bus I/O modules can be exchanged without rewiring. Further, the separate installation of terminal sockets and electronic modules lower risk of damage and theft in the construction phase.
- Fast wiring with state-of-the-art push-in terminals (screw-type terminals also available) and bridge connectors.
- Wide range of sensors supported (NTC20kΩ, NTC10kΩ, PT1000-1/-2, Johnson A99 PTC, NI1000TK5000, PT3000, Balco500, 0/2...10 V, 0/4...20 mA). **NOTE:** The mixed Panel Bus I/O modules XF830A, XFU830A, and CPO-IO830 feature inputs suitable for signals from NTC20kΩ sensors and 0/2...10 V, 0/4...20 mA, only!
- Binary input LEDs of the pluggable Honeywell Panel Bus I/O Modules can be configured for status display (off / yellow) or alarm display (green / red) per channel. **NOTE:** The mixed I/O modules XF830A, XFU830A, and CPO-IO830 feature only non-configurable binary input LEDs!
- Configurable safety position for outputs, in case of loss of communication with the controller.
- Max. wiring flexibility due to optional accessories like aux. terminals, manual disconnectors, and cross-connectors.
- Can be mounted in small installation housings
- Flexible mix of Panel Bus I/O modules covering all your application requirements.

OVERVIEW

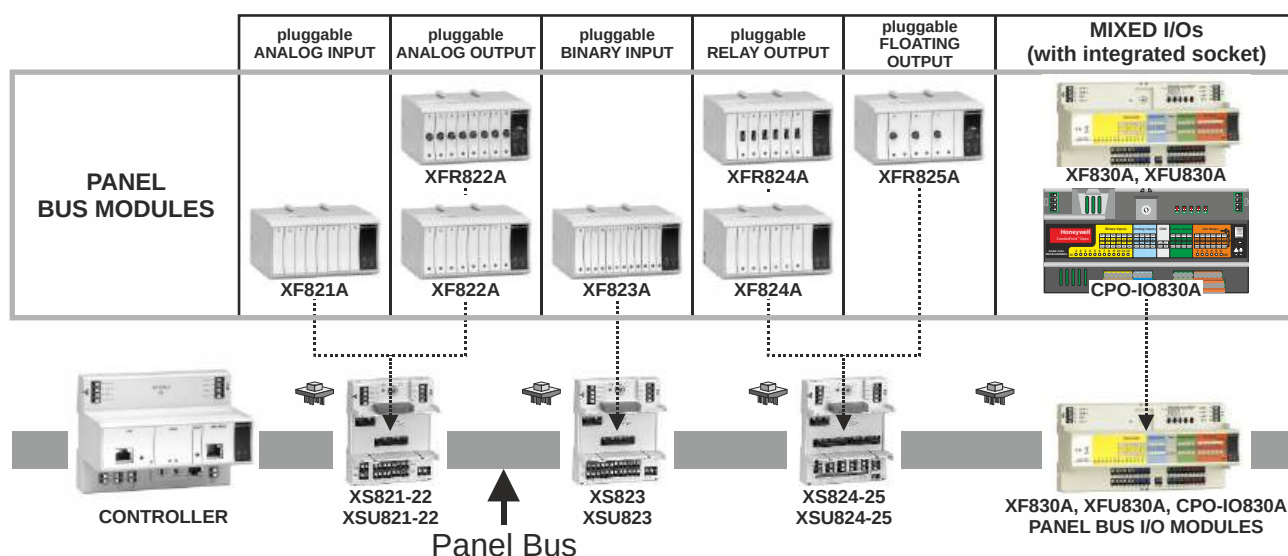
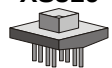
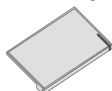
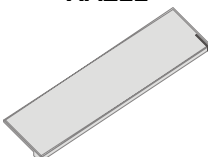


Fig. 1. Overview of Honeywell Panel Bus I/O Modules
Table 1. Overview of Honeywell Panel Bus I/O Modules

order number	description
Pluggable Panel Bus I/O Modules	
XF821	Pluggable Panel Bus Analog Input Module (with 8 analog inputs)
XF822	Pluggable Panel Bus Analog Output Module (with 8 analog outputs)
XFR822	Pluggable Panel Bus Analog Output Module (with 8 analog outputs and manual overrides)
XF823	Pluggable Panel Bus Binary Input Module (with 12 binary inputs)
XF824	Pluggable Panel Bus Relay Output Module (with 6 relay outputs)
XFR824	Pluggable Panel Bus Relay Output Module (with 6 relay outputs and manual overrides)
XFR825	Pluggable Panel Bus Floating Output Module (with 3 floating outputs and manual overrides)
Mixed Panel Bus I/O Modules with integrated socket	
XF830A	Mixed Panel Bus I/O Module (with 8 analog inputs, 8 analog outputs, 12 binary inputs, and 6 relay outputs), with push-in terminals (incl. bridge connector and swivel label); housing matches XL800 design
XFU830A	Mixed Panel Bus I/O Module (with 8 analog inputs, 8 analog outputs, 12 binary inputs, and 6 relay outputs), with screw terminals (incl. bridge connector and swivel label); housing matches XL800 design
CPO-IO830	Mixed Panel Bus I/O Module (with 8 analog inputs, 8 analog outputs, 12 binary inputs, and 6 relay outputs), with push-in terminals (incl. bridge connector); housing matches CPO-PC-6A design
Terminal Sockets (not needed for the mixed I/O modules XF830A, XFU830A, and CPO-IO830)	
XS821-22	Push-in terminal socket for pluggable AI/AO modules (incl. bridge connector, swivel label)
XSU821-22	Screw-type terminal socket for pluggable AI/AO modules (incl. bridge connector, swivel label)
XS823	Push-in terminal socket for pluggable BI modules (incl. bridge connector, swivel label)
XSU823	Screw-type terminal socket for pluggable BI modules (incl. bridge connector, swivel label)
XS824-25	Push-in terminal socket for pluggable relay/floating output modules (incl. bridge connector, cross connector, swivel label)
XSU824-25	Screw-type terminal socket for pluggable relay/floating output modules (incl. bridge connector, cross connector, swivel label)

Table 2. Overview of auxiliary parts and spare parts

order number	description
XS812 	Manual Disconnecter Module for AI/AO/BI Modules (for manual disconnection of individual signals; useful during start-up). Plugged between Terminal Socket and Electronic Module. For pluggable I/O modules, only.
XS812RO 	Manual Disconnecter Module for Relay Output Modules (for manual disconnection of individual signals; useful during start-up). Plugged between Terminal Socket and Electronic Module. Not suitable for line voltage. For pluggable I/O modules, only.
XS814 	Ten Auxiliary Terminal Blocks (for distribution of signals/power). Each terminal block includes two groups with seven internally-connected push-in terminals. For pluggable I/O modules, only.
XS830 	Ten Auxiliary Terminal Blocks (for distribution of signals/power). Each terminal block consists of two groups of nine internally-connected push-in terminals. For XF830A and XFU830A, only.
XS831 	Ten Auxiliary Terminal Blocks (for connection of 0...20 mA signals). Each terminal block supports up to 8 current inputs. For XF830A and XFU830A, only.
XS815 	20 Cross-Connectors for connection of six relay commons. One Cross-Connector is included in the Terminal Socket package. For pluggable I/O modules, only.
XS816 	10 Bridge Connectors. One Bridge Connector is included in the Terminal Socket package / in the mixed Panel Bus I/O module package.
XAL10 	10 Swivel Labels Holders (for attaching the application-specific label printed with CARE). One Swivel Label Holder is included in each Terminal Socket package. For pluggable I/O modules, only.
XAL11 	10 Swivel Label Holders for XF830A and XFU830A mixed Panel Bus I/O modules. One Swivel Label Holder is included in each package of XF830A and XFU830A mixed Panel Bus I/O modules.

NOTE: All Honeywell Panel Bus I/O Modules (pluggable and mixed) are protected against short circuit, 24 Vac +20% and 30 Vdc.

Table 3. Pluggable Panel Bus I/O Module specifications

Module	Analog Input	Analog Output	Binary Input	Relay Output	Floating Output
	XF821	XF822, XFR822	XF823	XF824, XFR824	XFR825
no. of I/Os	8 analog inputs	8 analog outputs	12 binary inputs requiring a gold contact or open collector	6 relay outputs	3 floating outputs
characteristics	Linear Graph, 0...10 Vdc with pull-up, 0(2)...10 Vdc without pull-up <u>NTC20kΩ (-50...+150 °C, default)</u> <u>NTC10kΩ (-30...+100 °C)</u> PT1000-1 (-50...150 °C) PT1000-2 (0...400 °C) Johnson A99 (-40...+120 °C) NI1000TK5000 (-30...+130 °C) PT3000 (-50...150 °C) BALCO500 (-30...120 °C) Also configurable as: binary inputs ■ Linear graph (0...10 V with pull-up) Features: 16-bit resolution - configurable offset per input - auxiliary voltage: 10 Vdc, $I_{max} = 5$ mA	0...11 Vdc / ± 1 mA Also configurable as: floating outputs or binary outputs (0 V / 10 V) Features: 8-bit resolution (default) - Safety position (remain, 0%, 50%, 100%) - red LED per output - light intensity follows output level in auto Version with manual override (R): 1 potentiometer per output - auto feedback signal (mode + value) - blinking in manual override position	static binary input, (default: dry contact) Also configurable as: totalizers (20 Hz) Features: 1 LED per input - Color mode can be set per input to OFF/yellow or green/red using CARE - ON: < 1.6 kΩ to GND or < 2.5 V to GND, OFF: > 90 kΩ to GND or > 4 V to GND	relay outputs (default) Features: - Changeover relays - Voltage: 19...250 Vac, 1...29 Vdc, $P > 50$ mW - max. total current: 12 A - current per relay: N.O.: 4(4) A (AC) or 4(1) A (DC), N.C.: 2(1) A (AC) or 4(1) A (DC) - Safety position (remain, 0%, 100%) - yellow LED per output With man. override (R): 1 switch per output - auto feedback signal (mode + value) - blinking in manual override position	floating outputs Features: 2 relays per floating output - Voltage: 19...250 Vac, 1...29 Vdc, $P > 50$ mW - max. total current: 12 A - current per relay: N.O.: 4(4) A (AC) or 4(1) A (DC), N.C.: 2(1) A (AC) or 4(1) A (DC) 1 potentiometer per floating output 2 LEDs per output: green: relay 1 closed, red: relay 2 closed - blinking in manual override position - auto feedback signal (mode + value)

Manual Overrides as per EN ISO 16484-2:2004

The manual override switches and potentiometers of the output modules (...R822, ...R824, and XFR825) support direct operation as per EN ISO 16484-2:2004, section 5.4.3 "Local Priority Override/Indicating Units."

Specifically, the positions of the manual override switches and potentiometers directly control the outputs – independently of the controller and HMI. When a manual override switch or potentiometer is not in its default position ("auto"), the corresponding output LED will blink continuously, and the output module will send a feedback signal with the status "manual override" and the given override position to the controller (which will then also store this information in its alarm memory).

NOTE: When updating the firmware of output modules, their outputs are turned OFF – regardless of the position of their manual override switches and/or potentiometers.

Table 4. Mixed Panel Bus I/O module specifications (XF830A, XFU830A, and CPO-IO830)

Analog Inputs	Analog Outputs	Binary Inputs	Relay Outputs
Number: 8 Configurable types: - NTC20kΩ (-30...+110 °C) (default) - Linear Graph 0...10 Vdc with pull-up 0(2)...10 Vdc without pull-up Also configurable as: - binary inputs (static, dry contact, only) Features: 10-bit resolution - configurable offset per input	Number: 8 Configurable types: 0...11 Vdc / ± 1 mA (default) Also configurable as: - binary outputs (0 V / 10 V) Features: 10-bit resolution (default) - Safety position (remain, 0%, 50%, 100%)	Number: 12 (requiring a gold contact or open collector) Configurable types: - Static binary inputs (default: static, dry contact); ON: < 1.6 kΩ to GND or < 2.5 V to GND, OFF: > 90 kΩ to GND or > 4 V to GND Also configurable as: - totalizers (15 Hz) Features: 1 yellow LED per input	Number: 6 Configurable types: - Relay outputs (default) Features: - Voltage: 24 Vac/dc, $P > 50$ mW - max. total current: 3 A (ac/dc) - current per relay: 500 mA - normally-open contacts: $P > 50$ mW, voltage: 24 V (ac/dc) 1 yellow LED per output

GENERAL FEATURES

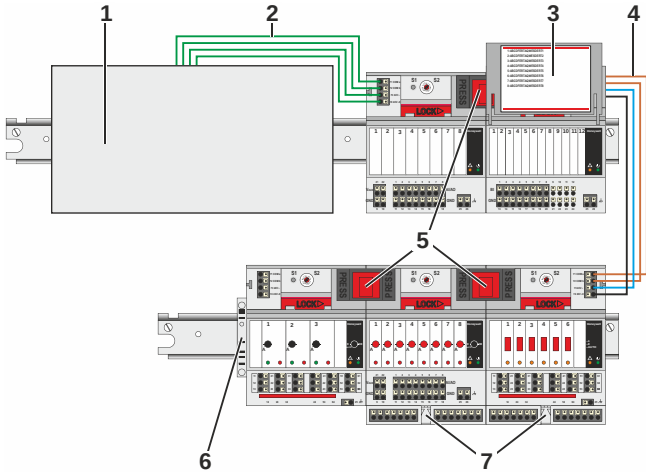


Fig. 2. Panel Bus I/O Modules on DIN rails

Legend

- 1 Controller (e.g., XL800, XL Web II, CPO-PC-6A, etc.)
- 2 Cable (power and LONWORKS) connection from controller to Panel Bus I/O Modules
- 3 Swivel label holder
- 4 Cable connection between Panel Bus I/O Modules on separate DIN rails
- 5 Bridge connectors between Panel Bus I/O Modules on same DIN rail
- 6 Stopper (from 3rd-party supplier)
- 7 Auxiliary terminal packages

LEDs

Each Honeywell Panel Bus I/O Module is equipped with:

- one green power LED
- one yellow service LED

Overvoltage Protection

All inputs and outputs are protected against 24 Vac and 40 Vdc overvoltage as well as against short-circuiting.

Service LED

Each Panel Bus I/O Module is equipped with a yellow service LED (status: yellow/OFF) for easy diagnosis of failures.

Microprocessor

Each Panel Bus I/O Module is equipped with its own microprocessor.

System Constraints

Depending upon the given controller, up to 64 I/O modules in any combination of models may be connected.

Addressing

Addressing is performed using the HEX switch.

System Constraints

Table 5. System constraints

Max. no. of I/O modules (any combination) per controller	depends upon controller type
Max. no. of I/O modules per row	10
Max. current (F1)	4 A
Max. current (F2)	12 A
Max. current (F3)	12 A
Max. row length	3 m
Max. distance between rows	40 m
Min. cross-section of GND (terminal 9) (protected by F2)	1.5 mm ²

Analog Input Module



Fig. 3. XF821 Panel Bus AI Module (shown with terminal socket)

Legend

- 1 Hex switch S2
- 2 Service LED
- 3 Power LED

The pluggable Honeywell Panel Bus Analog Input Module, with 8 analog inputs, is installed with the XS821-22 or XSU821-22 Terminal Socket.
Accessory disconnecter module: XS812 (see also Table 2 on page 3).

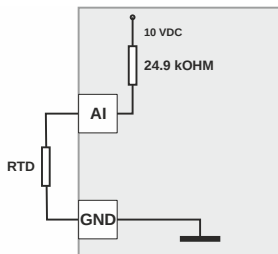


Fig. 4. Analog input low impedance (input circuit for PT1000, Johnson A99 PTC, Balco500, PT3000, NI1000TK5000, slow binary input)

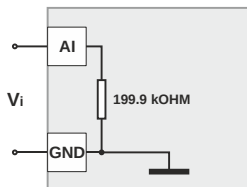


Fig. 5. Analog input high impedance (input circuit for voltage input for active sensors)

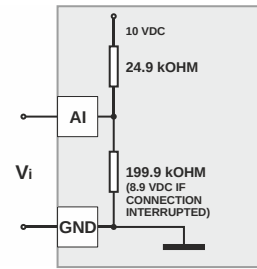


Fig. 6. Analog input impedance setpoint (input circuit for NTC10kΩ, NTC20kΩ, wall module setpoint)

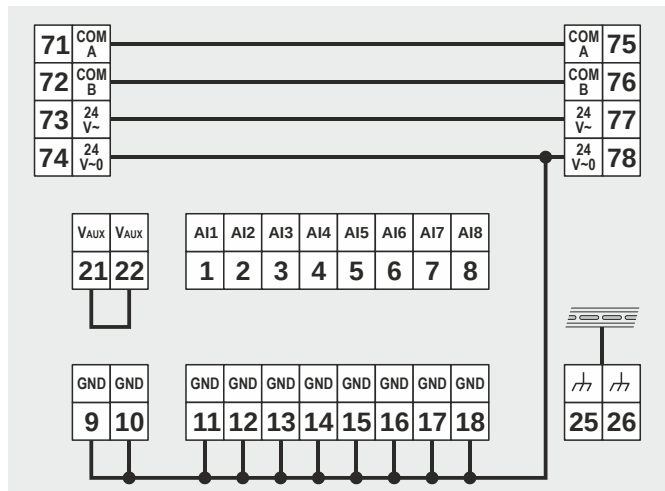


Fig. 7. Terminal assignment and internal connections

Features

- 0...10 Vdc, 2...10 Vdc without pull-up
- 0...10 Vdc with pull-up (linear graph, e.g. used for wall module connection)
- 0/4...20 mA, needs 499 Ω resistor in parallel
- NTC20kΩ (-50...+150 °C, default)
- NTC10kΩ (-30...+100 °C)
- PT1000-1 (-50...+150 °C)
- PT1000-2 (0...+400 °C)
- NI1000TK5000 (-30...+130 °C)
- PT3000 (-50...+150 °C)
- BALCO500 (-30...+120 °C)
- Binary input
- 16-bit resolution
- Configurable offset per input
- Auxiliary voltage: 10 Vdc, $I_{MAX} = 5 \text{ mA}$
- Sensor failure detection

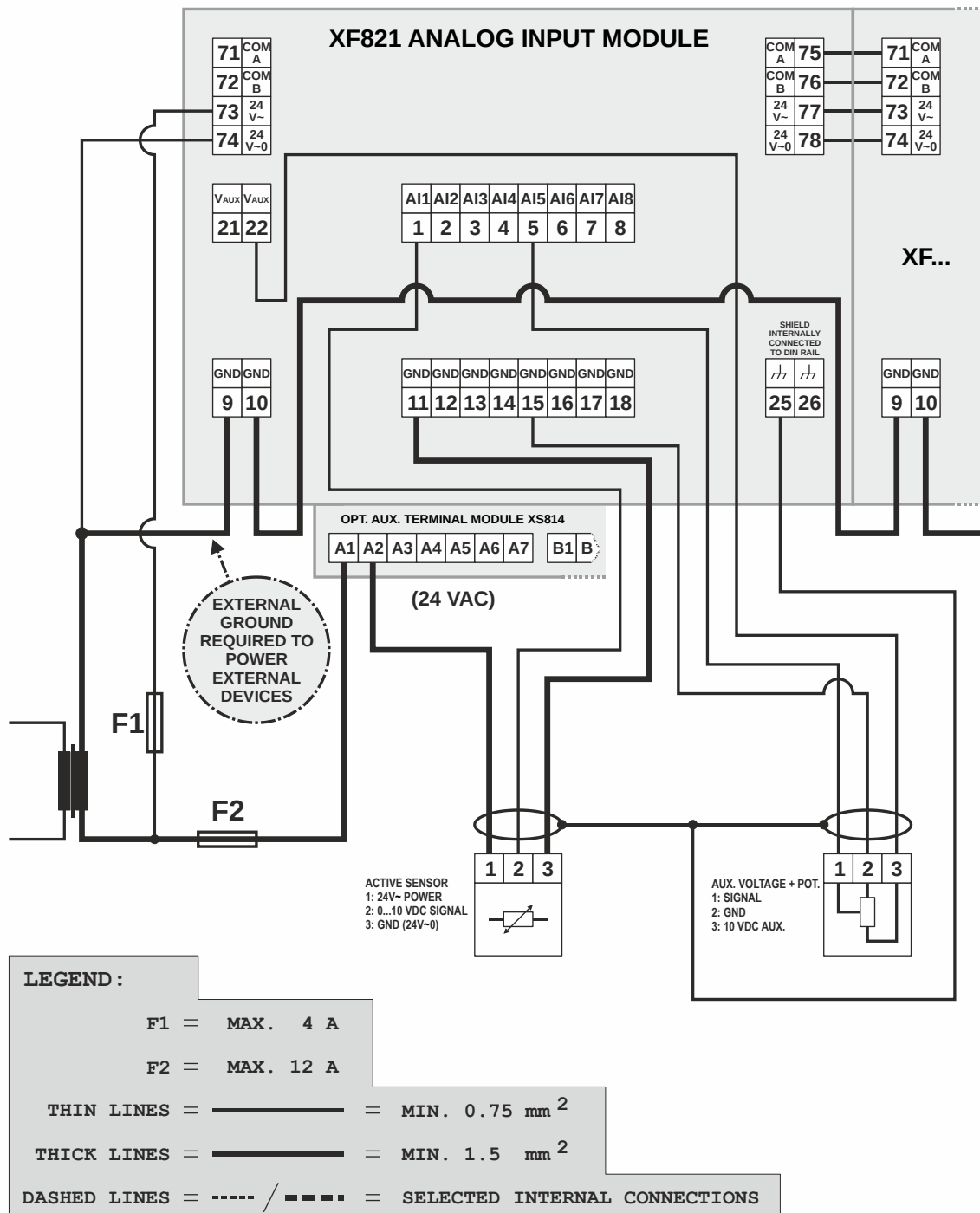


Fig. 8. XF821 Panel Bus AI Module, wiring example 1: Active sensor and potentiometer

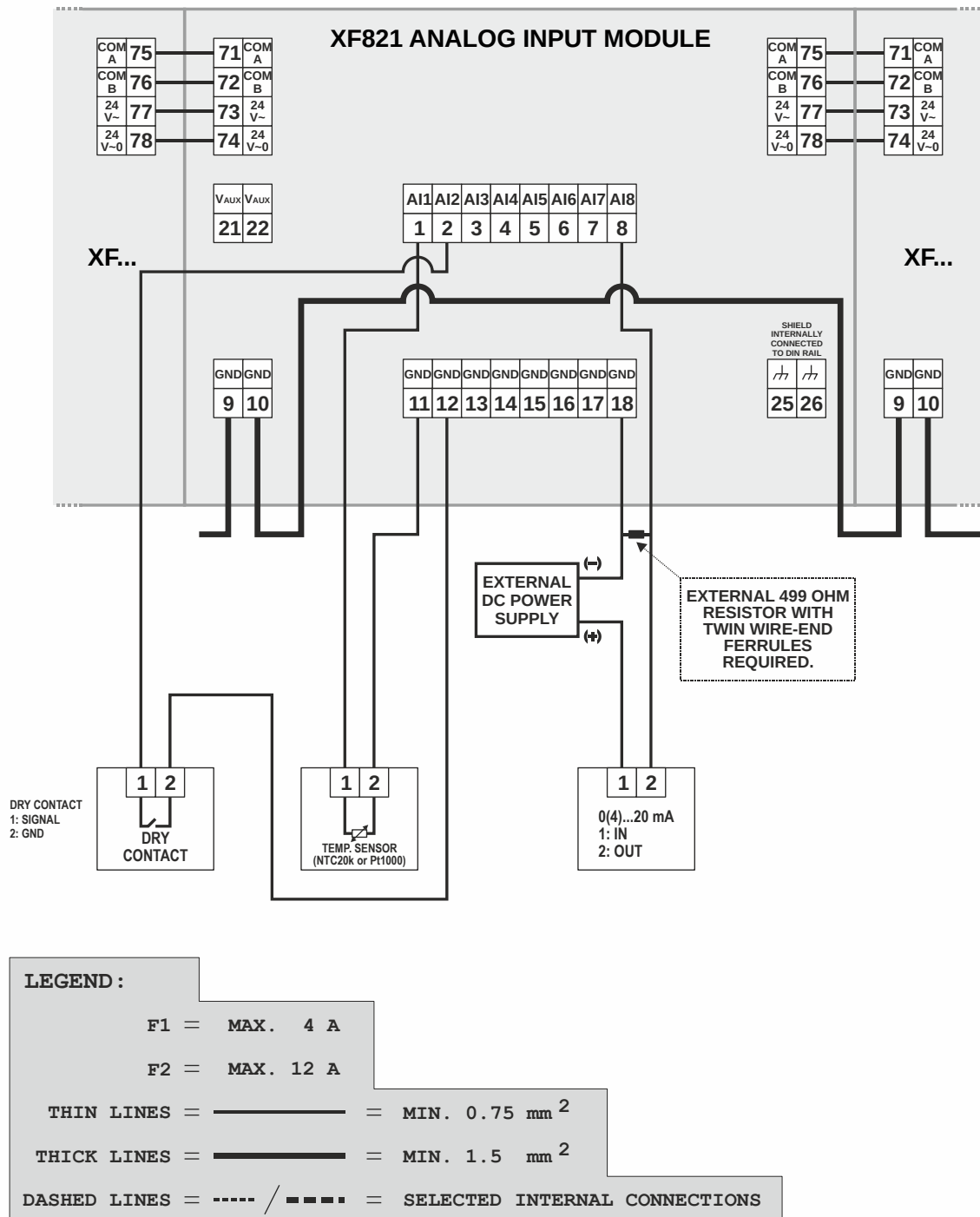


Fig. 9. XF821 Panel Bus AI Module, wiring example 2: Passive sensor and 0 (4) ... 20 mA signal

Analog Output Modules

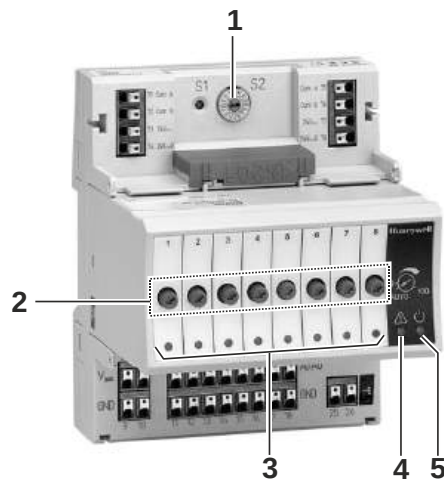


Fig. 10. XFR822 Panel Bus AO Module (shown with terminal socket)

Legend

- 1 Hex switch S2
- 2 Manual overrides
- 3 Status LEDs
- 4 Service LED
- 5 Power LED

The pluggable Honeywell Panel Bus Analog Output Modules, with 8 analog outputs, are available in the following models:

- XF822 Panel Bus Analog Output Module (without manual overrides)
- XFR822 Panel Bus Analog Output Module (with manual overrides)

They are installed with the XS821-22 or XSU821-22 Terminal Socket.

Accessory disconnecter module: XS812 (see also Table 2 on page 3).

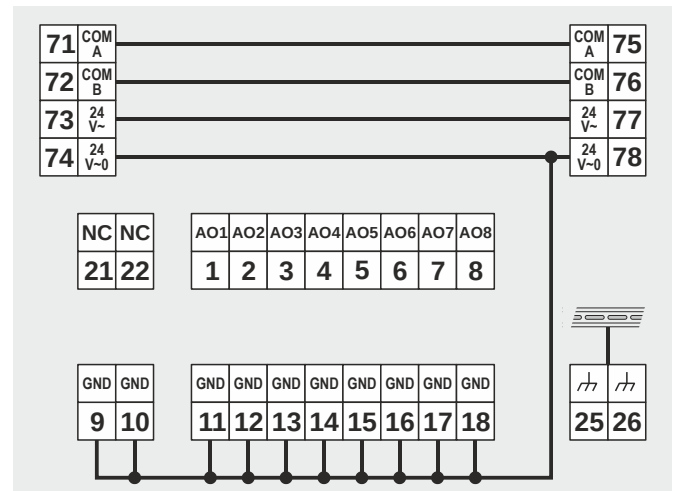


Fig. 11. Terminal assignment and internal connections

Features

- 0...11 Vdc, +/-1 mA
- Floating actuator (requires MCD3)
- Binary output (0 V / 10 V)
- red LED per output (brightness according to signal level)
- Optional versions with manual override potentiometers (Auto, 0...100%; LED flashes in override mode)
- Feedback on manual override signal
- 8-bit resolution
- Configurable safety position for outputs in case of communication problems (remain, 0%, 50%, 100%)

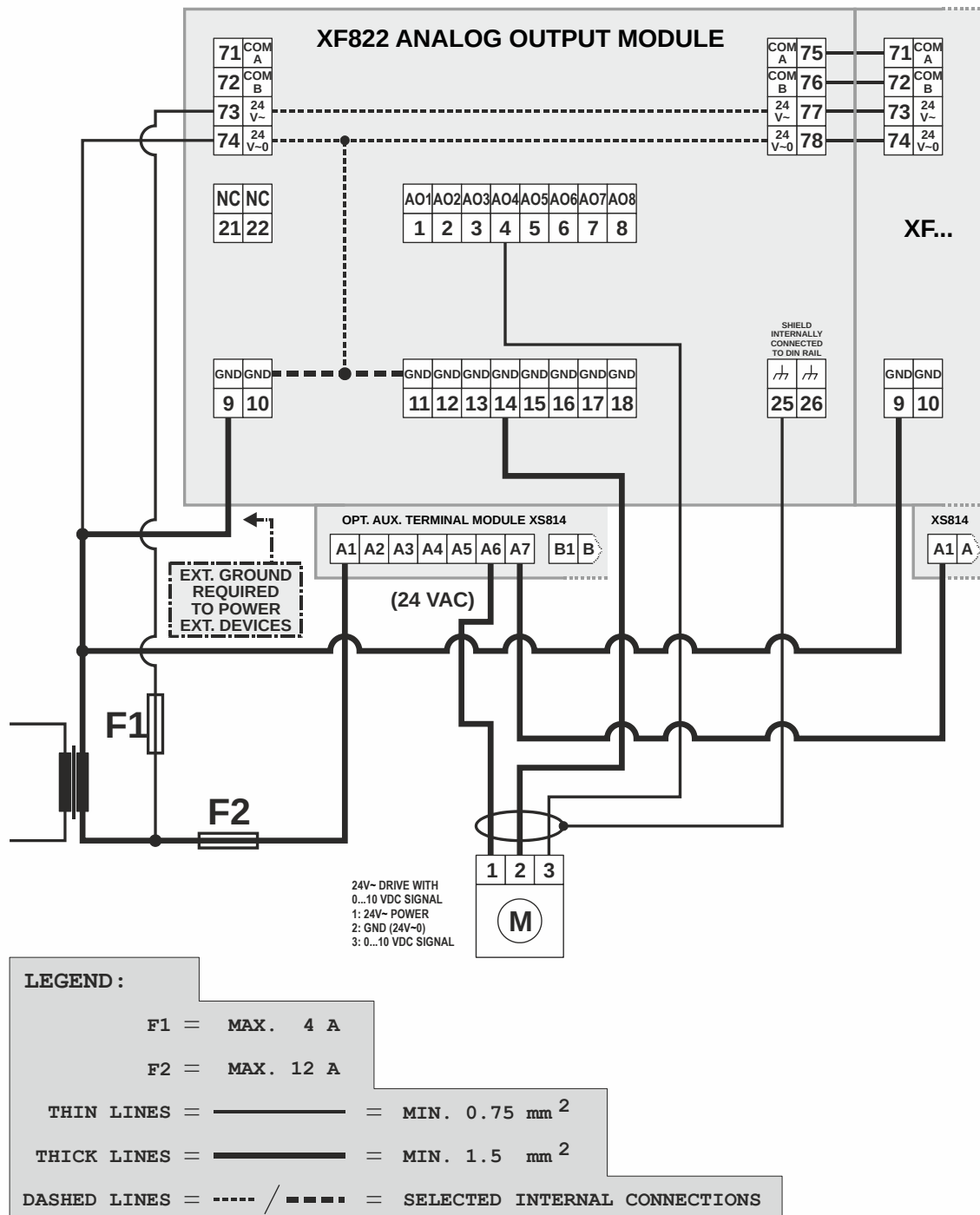


Fig. 12. XF822 Panel Bus AO Module, wiring example 1: Actuator

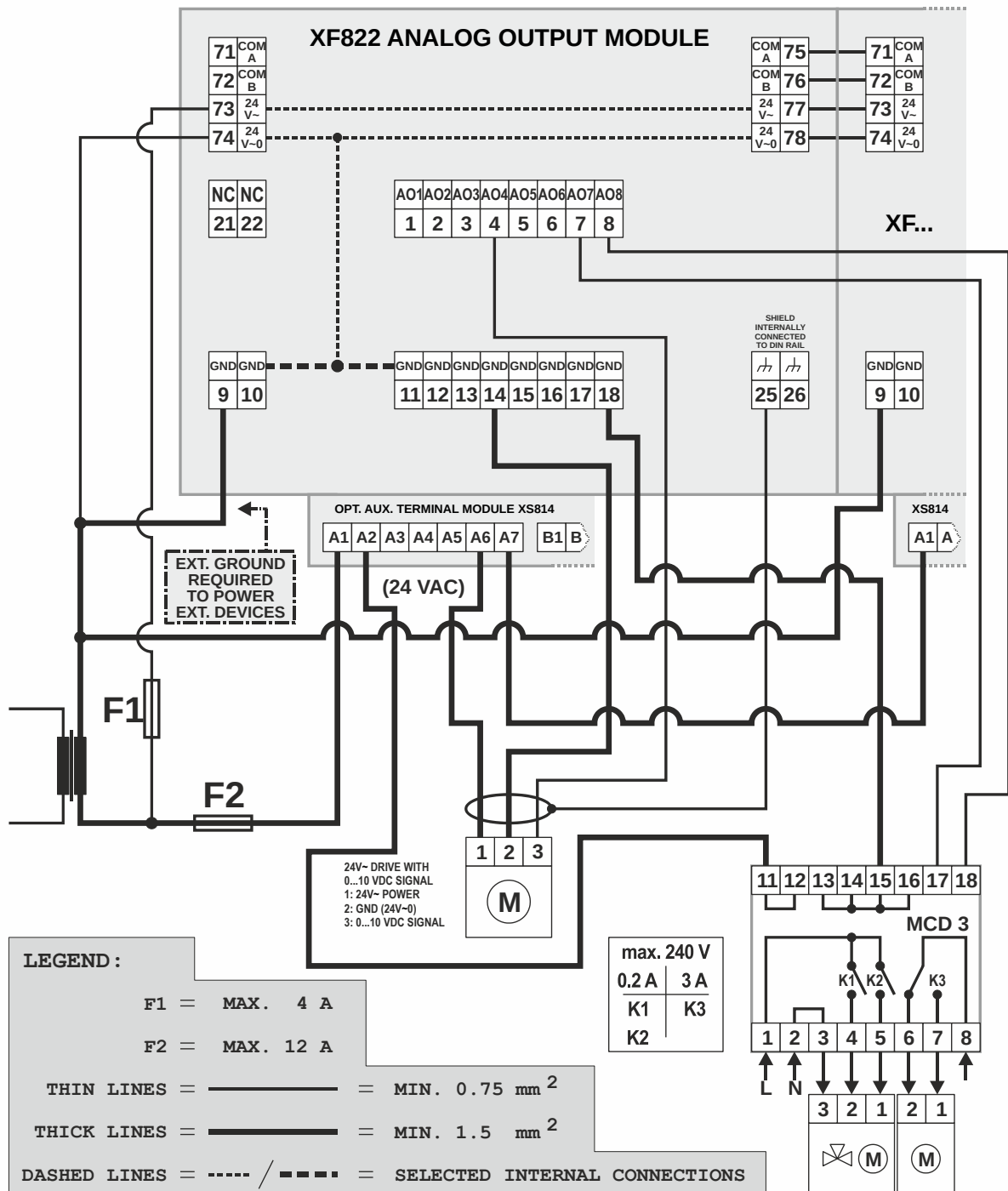


Fig. 13. XF822 Panel Bus AO Module, wiring example 2: Relay Module MCD 3

- The relay module facilitates the control of peripheral devices with high load via the analog outputs.
- Input terminal 17 of MCD3 controls changeover contact K3.
- Relay terminal 18 of MCD3 controls the N.O. contacts (floating outputs) K1, K2.

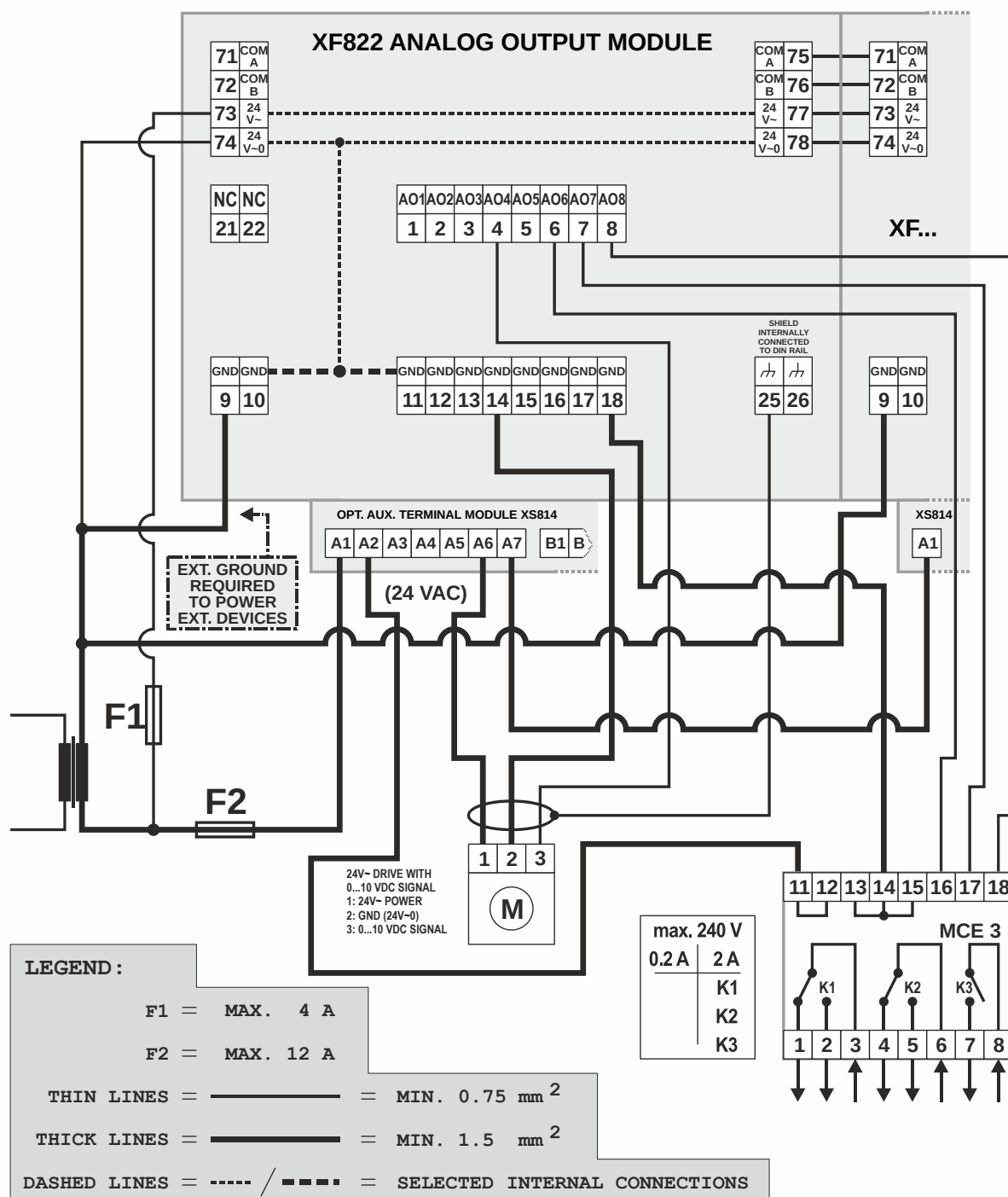


Fig. 14. XF822 Panel Bus AO Module, wiring example 3: Relay Module MCE 3

The relay module facilitates the control of peripheral devices with high load via the analog outputs.

- Input terminal 16 of MCE3 controls the N.O. contact K3.
- Input terminal 17 of MCE3 controls the changeover contact K2.
- Input terminal 18 of MCE3 controls the changeover contact K1.

Binary Input Module

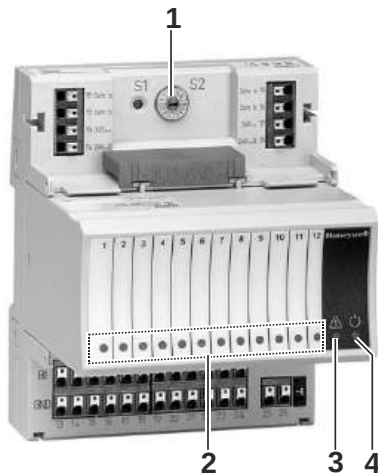


Fig. 15. XF823 Panel Bus BI Module (shown with XS823 terminal socket)

Legend

- 1 Hex switch S2
- 2 Status LEDs
- 3 Service LED
- 4 Power LED

The pluggable Honeywell Panel Bus Binary Input Module, with 12 binary inputs, is installed with the XS823 or XSU823 Terminal Socket.

Accessory disconnecter module: XS812 (see also Table 2 on page 3).

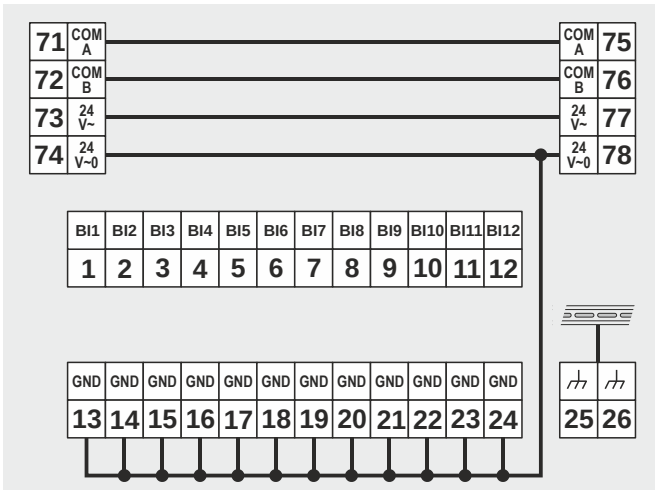


Fig. 16. Terminal assignment and internal connections

Features

- Static binary input (dry contact)
- Totalizer for up to 20 Hz
- LEDs per binary input supporting alarm display mode (red/green) or status mode (off/yellow).
- Color mode of each LED can be set to OFF/yellow or green/red in CARE.

Configuration as Fast Totalizer

Using CARE, the binary inputs can be configured as fast totalizers for operation in conjunction with devices equipped with an open collector output.

Table 6. Binary inputs used as fast totalizers

Frequency	max. 20 Hz
Pulse ON	min. 25 ms
Pulse OFF	min. 25 ms
Bounce	max. 5 ms

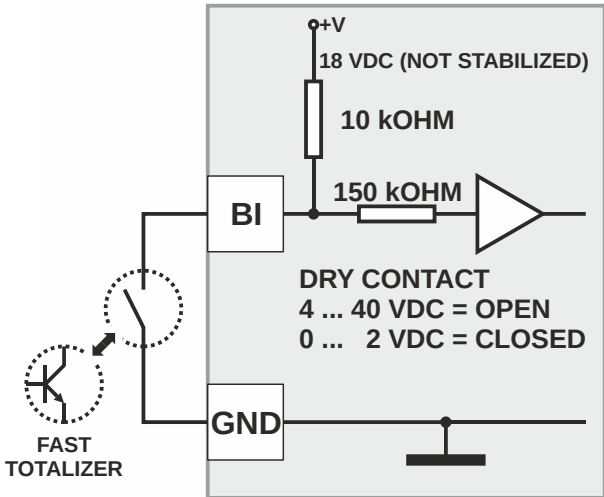
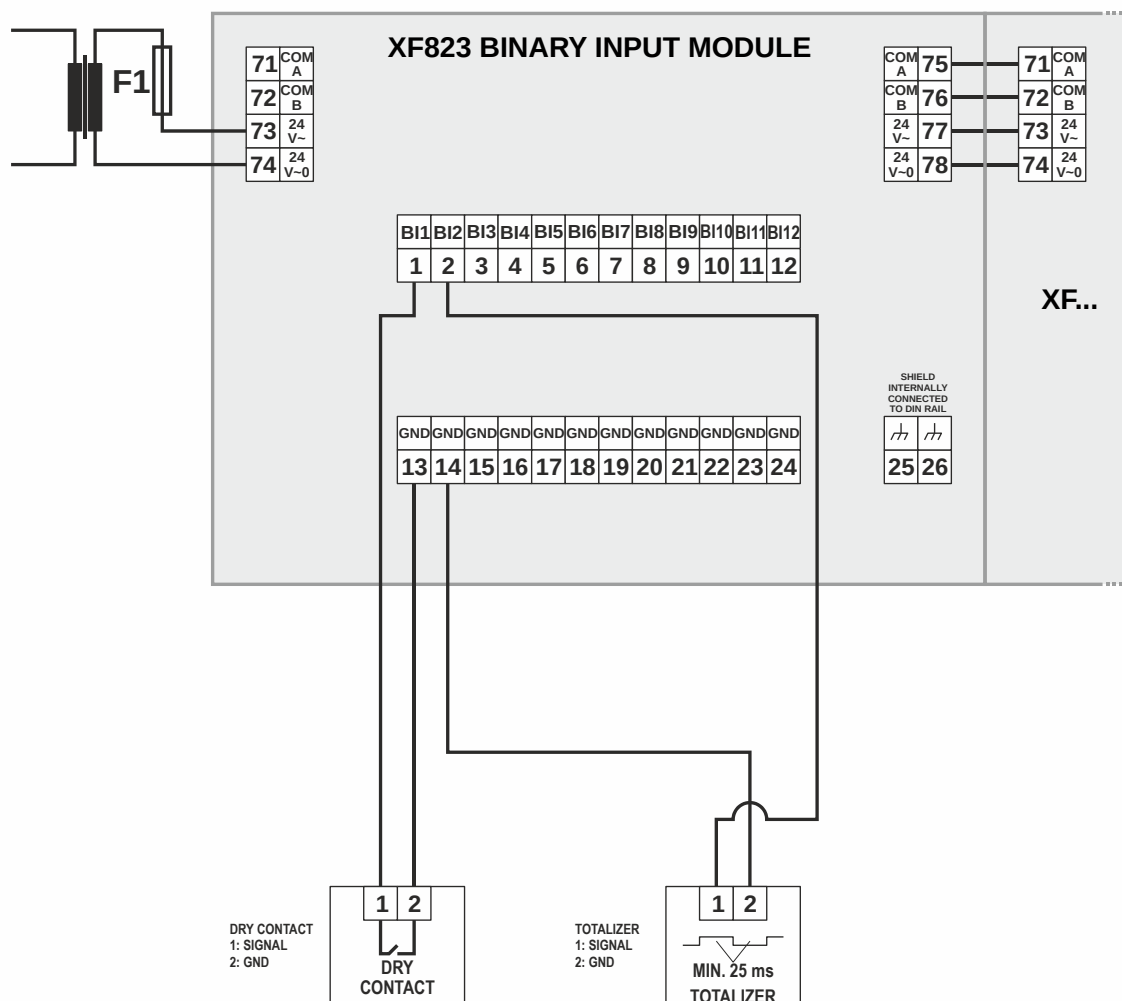


Fig. 17. Configuration of binary input as fast totalizer



LEGEND :

F1 = MAX. 4 A

THIN LINES = ————— = MIN. 0.75 mm²

THICK LINES = ————— = MIN. 1.5 mm²

DASHED LINES = ----- / - - - - = SELECTED INTERNAL CONNECTIONS

Fig. 18. XF823 Panel Bus BI Module, wiring example: Dry contact and totalizer

Relay Output Modules

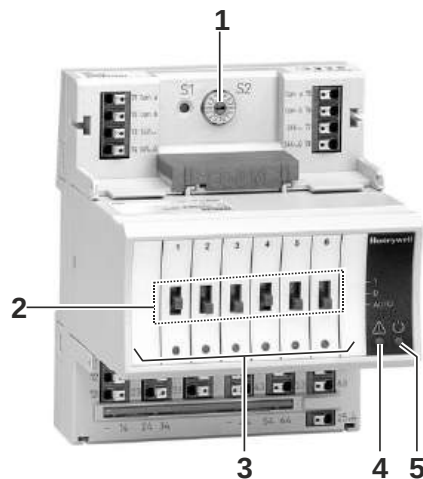


Fig. 19. XFR824 Panel Bus Relay Output Module (shown with terminal socket)

Legend

- 1 Hex switch S2
- 2 Manual overrides
- 3 Status LEDs
- 4 Service LED
- 5 Power LED

The pluggable Honeywell Panel Bus Relay Output Modules, with 6 relay outputs, are available in the following versions:

- XF824 Panel Bus Relay Output Module (without manual overrides)
- XFR824 Panel Bus Relay Output Module (with manual overrides)

They are installed with the XS824-25 or XSU824-25 Terminal Socket.

Accessory disconnecter module: XS812-RO (see also Table 2 on page 3).

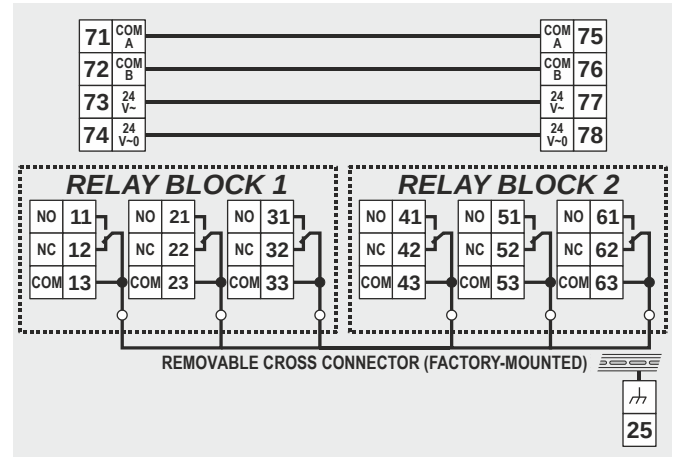
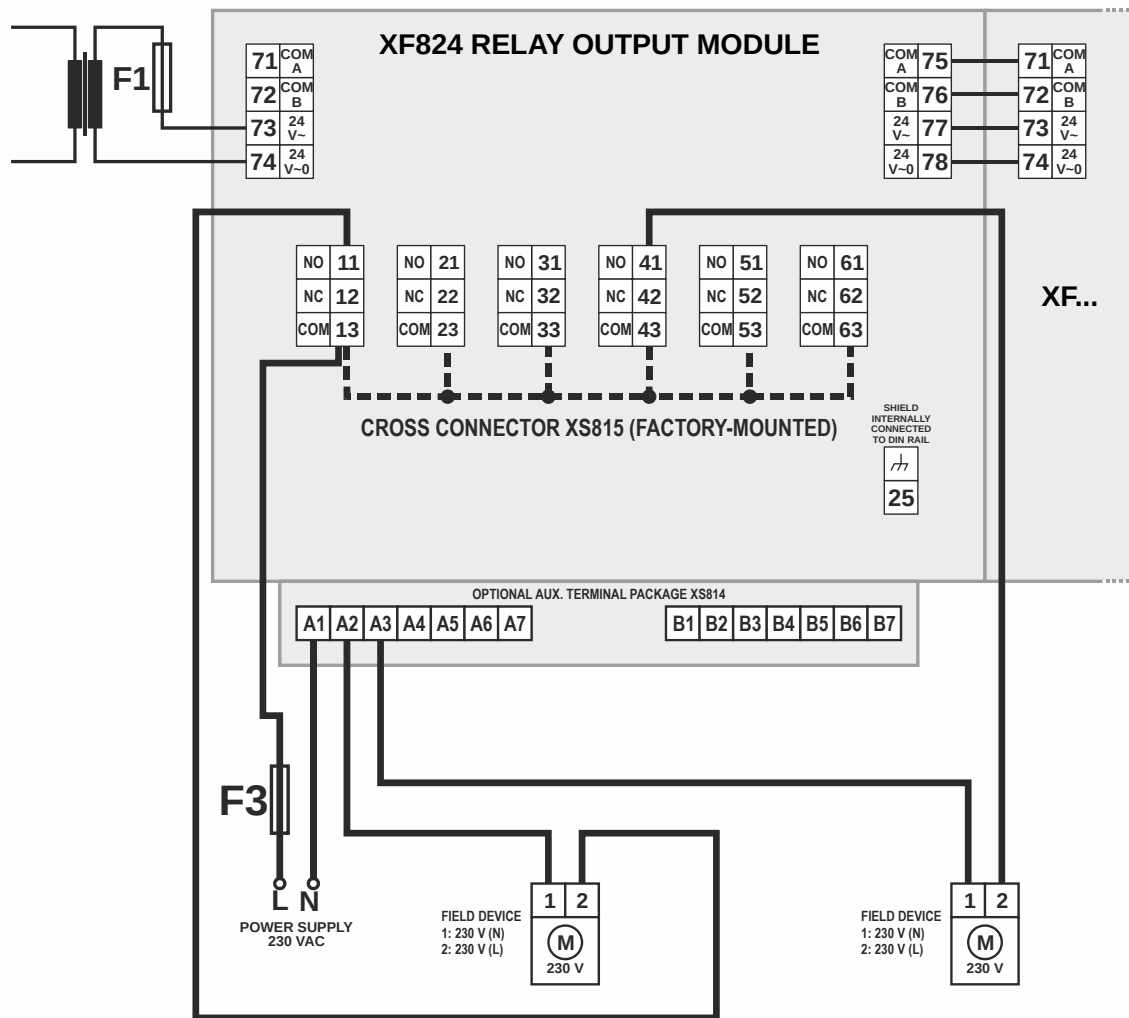


Fig. 20. Terminal assignment and internal connections

Features

- Cross-Connector
- 1 yellow LED per output
- Optional versions with manual override switches (Auto, 0, 1; LED flashes in override mode)
- Feedback on manual override signal
- Configurable safety position for outputs in case of communications problems (remain, OFF, ON)
- Permissible Load per Relay Output Module (Total)
 - *Max. load:*
 - 19...250 Vac: 12 A
 - 1...24 Vdc: 12 A resistive, 3 A inductive
- Permissible Load per Normally-Open Contact:
 - *Max. load:*
 - 19...250 Vac: 4 A resistive or inductive
 - 1...24 Vdc: 4 A resistive, 1 A inductive
 - *Min. load:* $P > 50 \text{ mW}$
- Permissible Load per Normally-Closed Contact:
 - *Max. load:*
 - 19...250 Vac: 2 A resistive, 1 A inductive
 - 1...24 Vdc: 2 A resistive, 1 A inductive
 - *Min. load:* $P > 50 \text{ mW}$



LEGEND :

F1 = MAX. 4 A

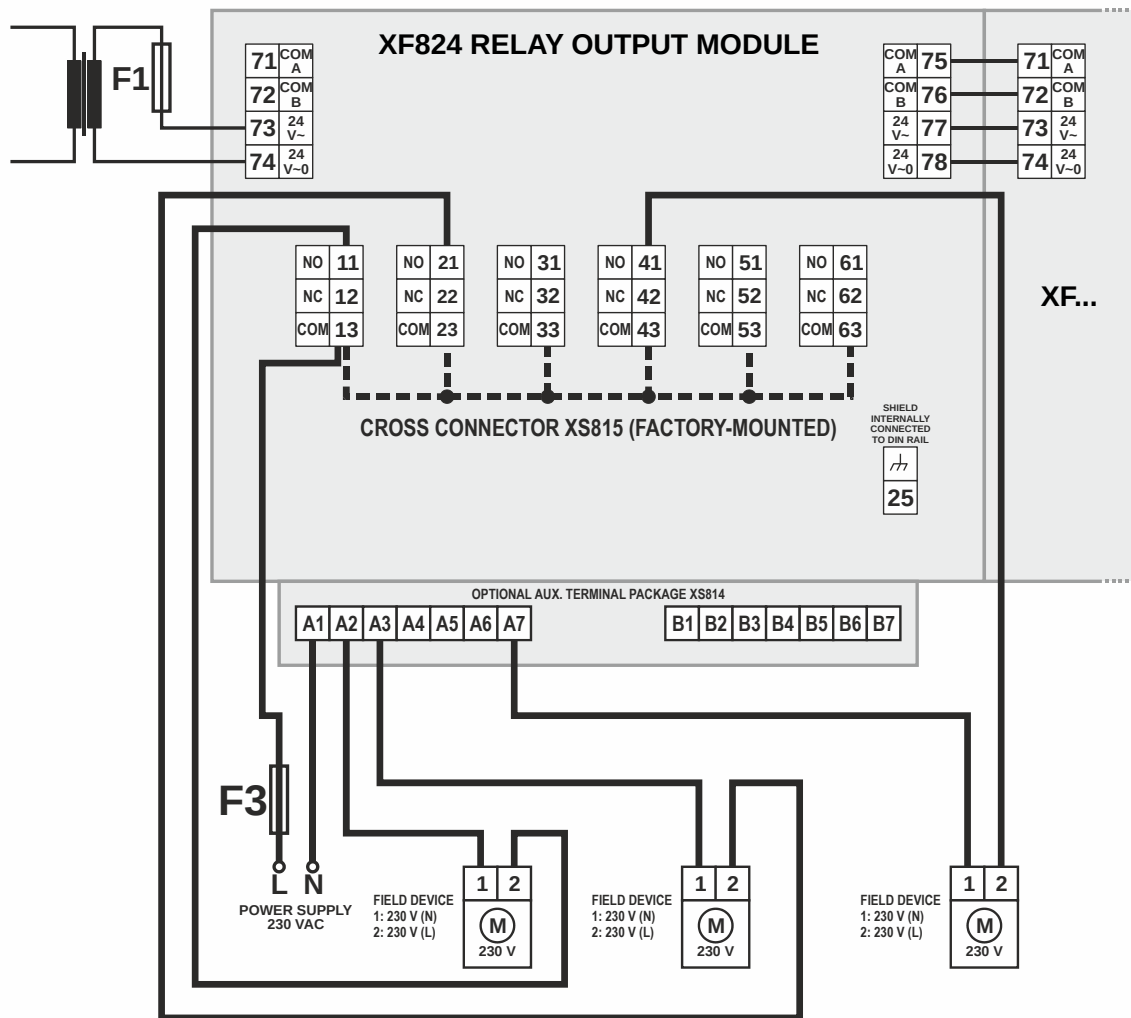
F3 = MAX. 12 A

THIN LINES = ——— = MIN. 0.75 mm²

THICK LINES = ————— = MIN. 1.5 mm² - or less, as per F3

DASHED LINES = - - - - / - - - - = SELECTED INTERNAL CONNECTIONS

Fig. 21. XF824 Panel Bus RO Module, wiring example 1: Both relay blocks with line voltage



LEGEND :

F1 = MAX. 4 A

F3 = MAX. 12 A

THIN LINES = ——— = MIN. 0.75 mm²

THICK LINES = ————— = MIN. 1.5 mm² - or less, as per F3

DASHED LINES = - - - - / - - - - = SELECTED INTERNAL CONNECTIONS

Fig. 22. XF824 Panel Bus RO Module, wiring example 2: Relay blocks with low and line voltage

Floating Output Module

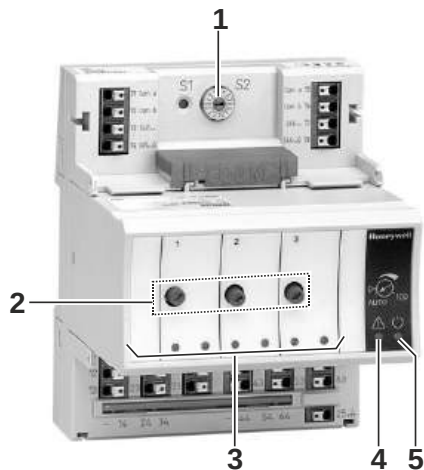


Fig. 23. XFR825 Panel Bus Floating Output Module (shown with socket)

Legend

- 1 Hex switch S2
- 2 Manual overrides
- 3 Status LEDs
- 4 Service LED
- 5 Power LED

The pluggable XFR825 Panel Bus Floating Output Module, with manual overrides and 3 floating outputs, is installed with the XS824-25 or XSU824-25 Terminal Socket.

Accessory disconnecter module: XS812-RO (see also Table 2 on page 3).

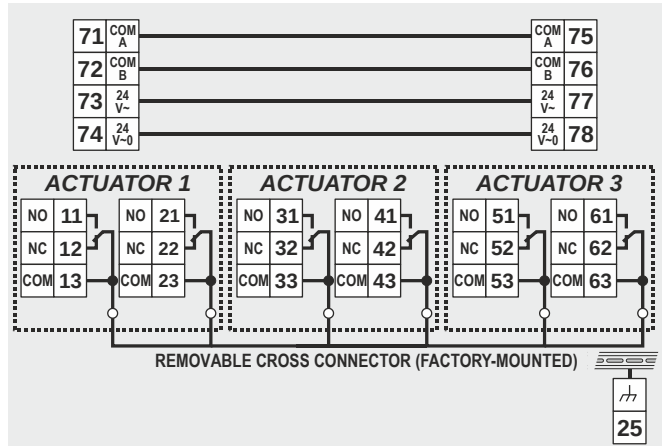
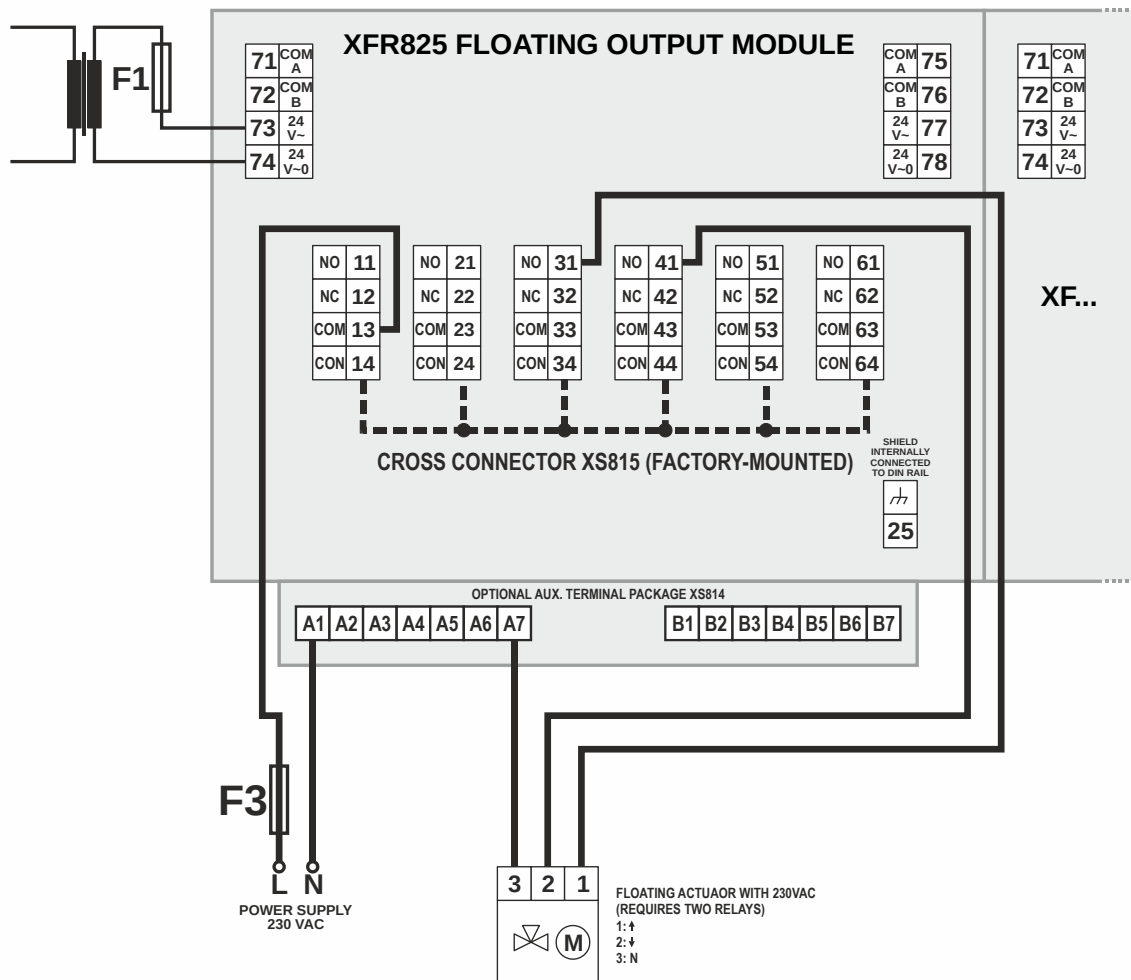


Fig. 24. Terminal assignment and internal connections

Features

- Cross-Connector
- 1 red LED (opening) and 1 green LED (closing) per floating output
- Manual override potentiometers (Auto, 0%...100%; LED flashes in override mode)
- Feedback on manual override signal
- Configurable safety position for outputs in case of communication problems (remain, 0%, 50%, 100%)
- Permissible Load per Floating Output Module (Total)
 - *Max. load:*
 - 19...250 Vac: 12 A
 - 1...24 Vdc: 12 A resistive, 3 A inductive
- Permissible Load per Normally-Open Contact:
 - *Max. load:*
 - 19...250 Vac: 4 A resistive or inductive
 - 1...24 Vdc: 4 A resistive, 1 A inductive
 - *Min. load:* $P > 50 \text{ mW}$
- Permissible Load per Normally-Closed Contact:
 - *Max. load:*
 - 19...250 Vac: 2 A resistive, 1 A inductive
 - 1...24 Vdc: 2 A resistive, 1 A inductive
 - *Min. load:* $P > 50 \text{ mW}$



Mixed I/O Modules



Fig. 26. XF830A, XFU830A, and CPO-IO830 Mixed Panel Bus Modules

The mixed Honeywell Panel Bus I/O modules, with 8 analog inputs, 8 analog outputs, 12 binary inputs, and 6 relay outputs, are available in the following versions:

- XF830A mixed Honeywell Panel Bus I/O module, with push-in terminals (incl. one bridge connector and one swivel label);
- XFU830A mixed Honeywell Panel Bus I/O module, with screw terminals (incl. one bridge connector and one swivel label);
- CPO-IO830 mixed Honeywell Panel Bus I/O module, with push-in terminals (incl. one bridge connector).

Each features an integrated terminal socket and electronic module. The XF830A can be equipped with up to two rows of (XS830 and/or XS831) auxiliary terminal blocks on the top and/or bottom. The XFU830A and CPO-IO830 can be equipped with up to two rows of (XS830 and/or XS831) auxiliary terminal blocks on the top, only.

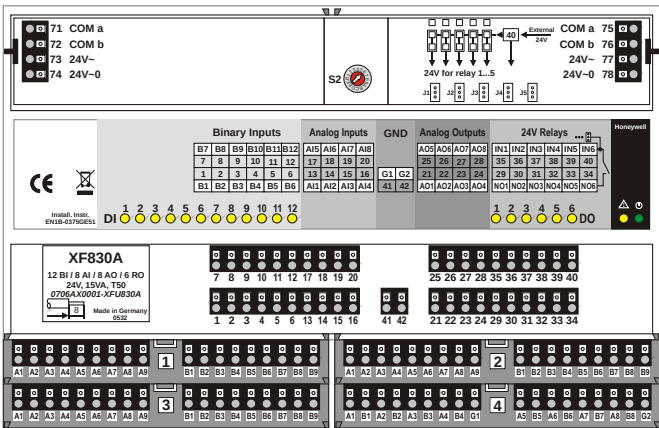


Fig. 27. XF830A mixed Panel Bus I/O module, shown with 4 optional aux. terminal blocks (top view)

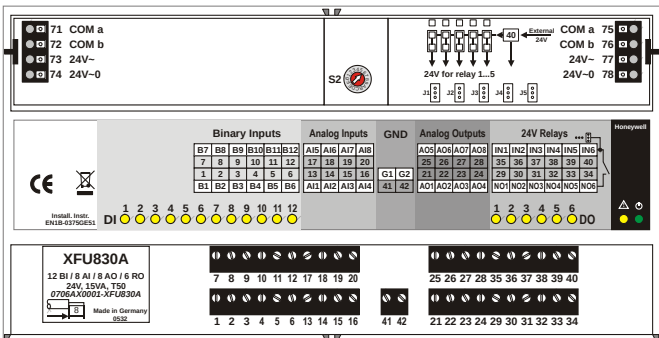


Fig. 28. XFU830A mixed Panel Bus I/O module, shown without optional aux. terminal blocks (top view)

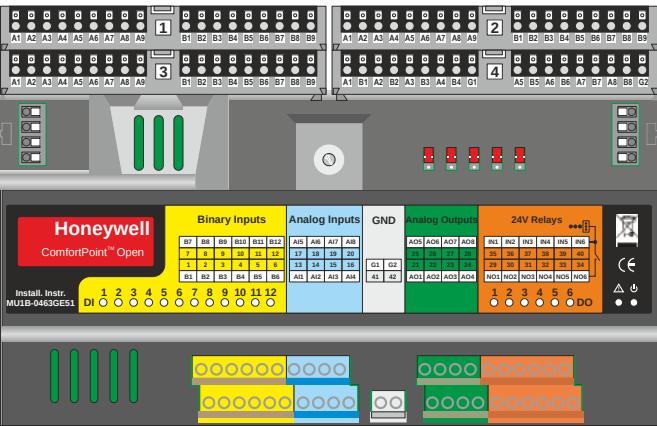


Fig. 29. CPO-IO830 mixed Panel Bus I/O module, shown with 4 optional aux. terminal blocks (top view)

Features

- 1 yellow LED per output
- Configurable safety position for outputs in case of communications problems (remain in last position, OFF, ON)

WARNING

Risk of electric shock or equipment damage!
It is not permitted to wire the relays of the mixed Panel Bus I/O modules for anything other than low voltage.

Permissible Loads

Table 7. Permissible loads of mixed Panel Bus I/O modules

	max. load	min. load
per module (total for all relay contacts)	24 VDC/VAC 3 A resistive or inductive, $\cos \varphi \geq 0.6$, no capacitive load, protected by fuse F4	—
per normally open contact	24 VDC/VAC, 0.5 A resistive or inductive, $\cos \varphi \geq 0.6$, no capacitive load	>50 mW, 0.05 A res./ind., $\cos \varphi \geq 0.6$

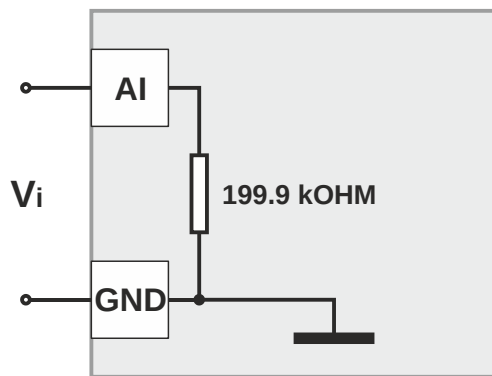


Fig. 30. Analog input high impedance (input circuit for voltage input for active sensors)

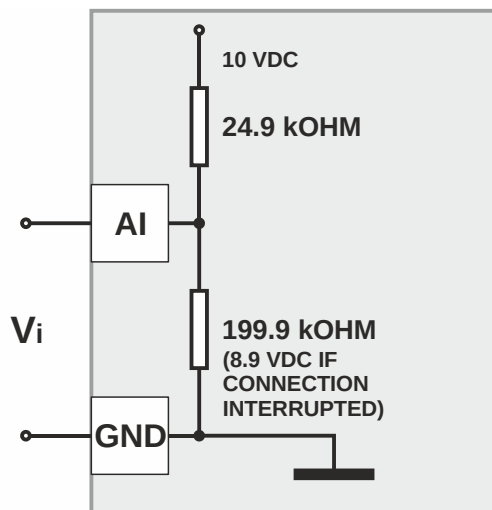


Fig. 31. Analog input impedance setpoint (input circuit for NTC10k Ω , NTC20k Ω , wall module setpoint)

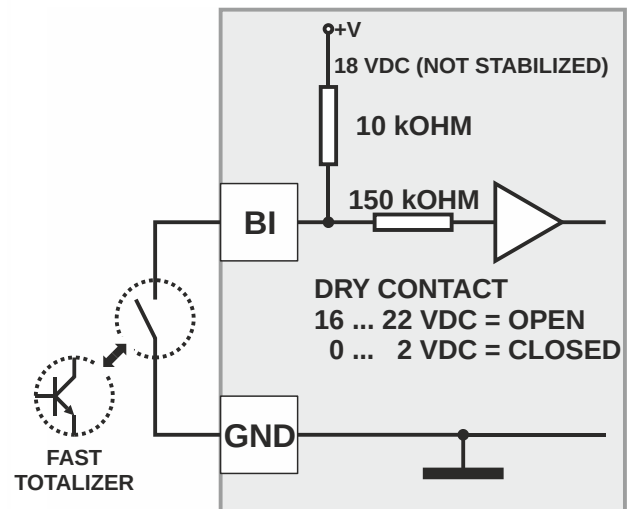


Fig. 32. Configuration of a binary input as a fast totalizer



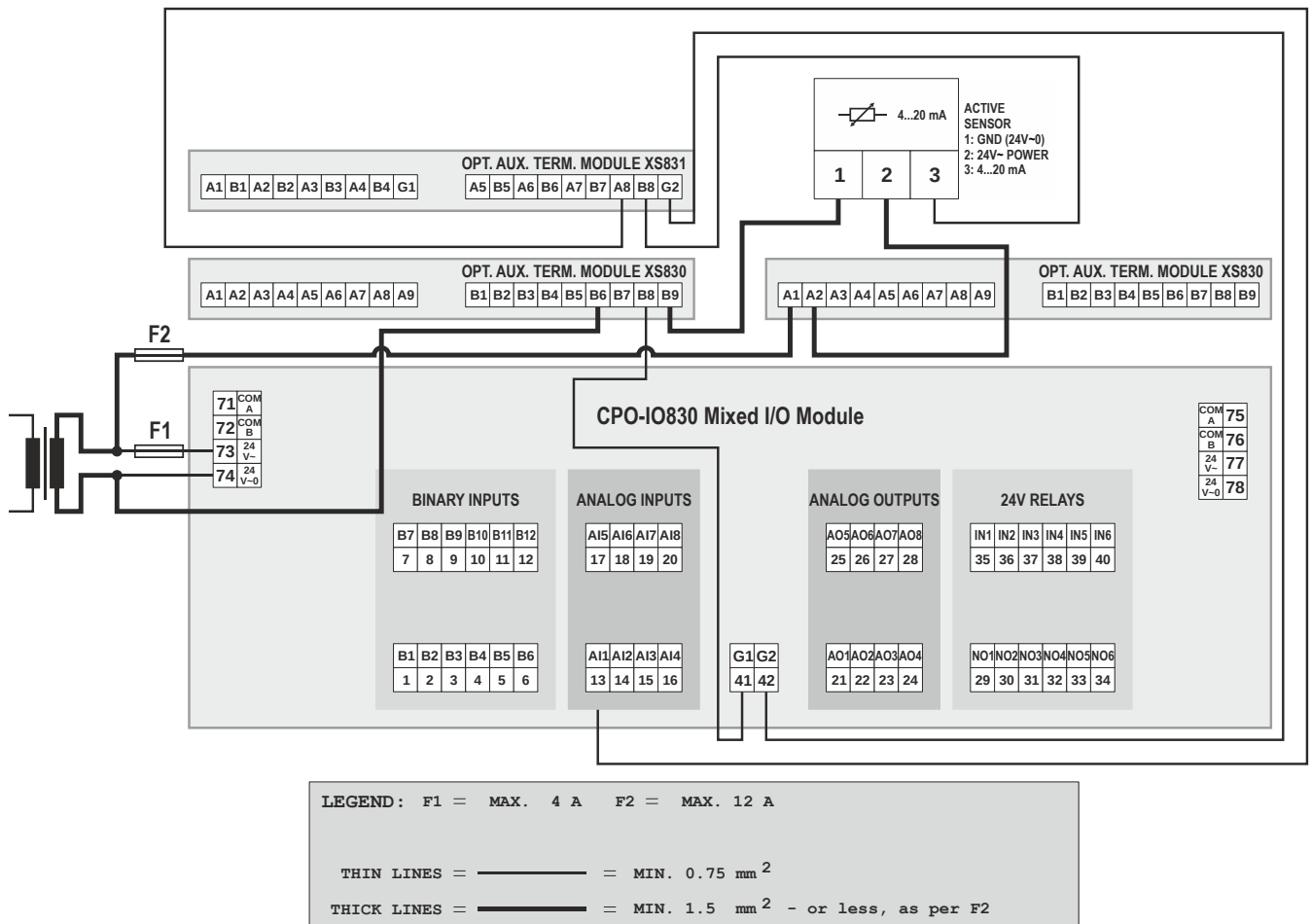


Fig. 34. CPO-IO830 Connection example (for current inputs)

Approvals, Certifications, and Standards

Approvals and Certifications

- CE-approved
- Conforms to EN 60730-1 and EN 60730-2-9
- Investigated according to United States Standard UL916 (USL-listed) as well as according to Canadian National Standard(s) C22.2 (CNL-listed)

Classification according to EN60730-1

Environmental conditions: For use in home (residential, commercial, and light-industrial) environments

Pollution degree: Class 2

Protection against shock: Class II

Software class: Class A

Overvoltage category: II

Classification according to EN60529

(Degree of Protection Provided by Enclosures)

Classification: IP20

Ambient Environmental Limits

Operating temperature: 0 ... +50 °C at 5...93% r.H.

Storage temperature: -20 ... +70 °C at 5...93% r.H.

Humidity: 5 ... 93% r.h. non-condensing

Current Requirements and Heat Dissipation

The Panel Bus I/O Modules are equipped with highly-efficient switching power supplies which provide for relatively uniform power consumption over a wide range of supply voltages (see Table 8). The specific heat dissipation inside the modules amounts to less than 2 W for all models.

Table 8. Current requirements of Panel Bus I/O modules

devices powered	supply voltage	
	24 Vac	24 Vdc
XF821	130 mA	80 mA
XF822, XFR822	150 mA	90 mA
XF823	180 mA	130 mA
XF824, XFR824, XFR825	140 mA	80 mA
XF830A, XFU830A, CPO-IO830	200 mA	95 mA

Mechanical

Housing Dimensions (H x W x D)

The pluggable Panel Bus I/O Modules (mounted on Terminal Sockets) all have the dimensions: 110 X 90 X 93 mm (see also Fig. 35 on page 25).

The XF830A and XFU830A mixed Panel Bus I/O Modules have the dimensions: 216 X 110 X 93 mm (see also Fig. 36 on page 25).

The CPO-IO830 mixed Panel Bus I/O Module has the dimensions: 216 X 110 X 61 mm (see also Fig. 37 on page 26).

Housing Material

Plastic, flame-retardant

Mounting Methods

DIN-rail mounting (e.g., in control cabinet).

Calculated Lifetime of Weakest Components

MTBF ≥ 13.7 years (under typical operating conditions)

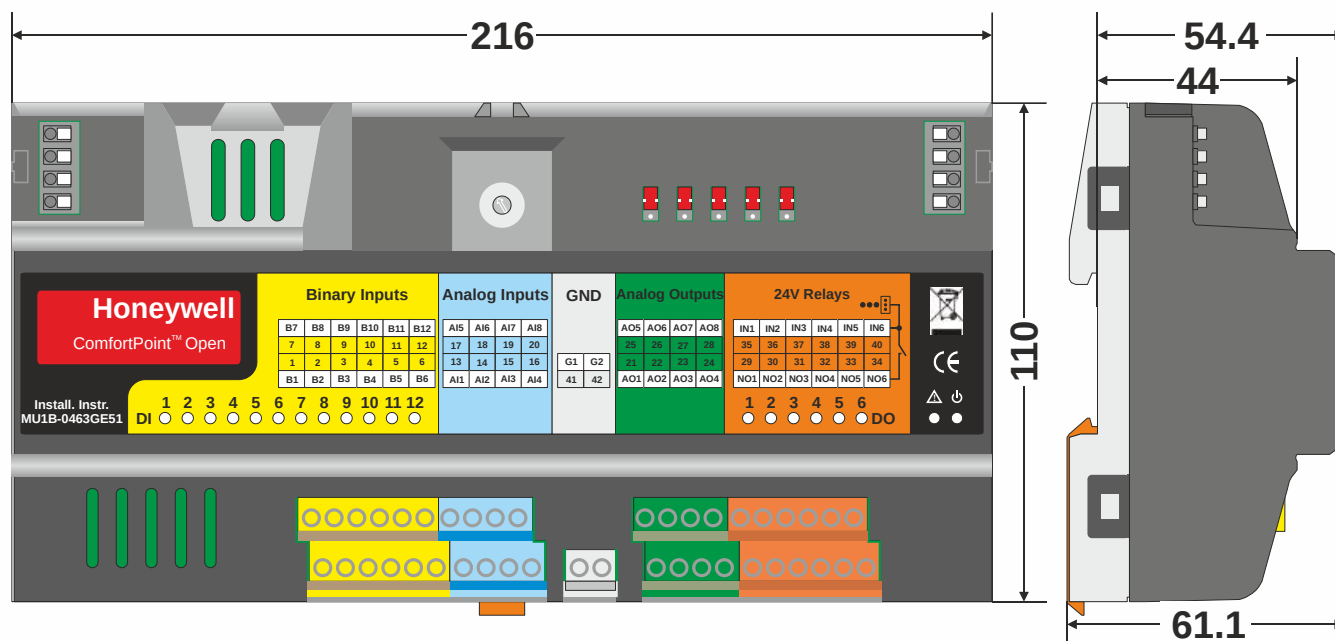


Fig. 37. CPO-IO830 Mixed Honeywell I/O Modules, dimensions (in mm)

Honeywell

Manufactured for and on behalf of the Environmental & Energy Solutions Division of Honeywell Technologies Sàrl, Rolle, Z.A. La Pièce 16, Switzerland by its Authorized Representative:

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