

INNCOM X45R8

The X45R8 Universal Relay Pack enables switching control of INNCOM guestroom lighting and HVAC equipment. The X45R8 is equipped with eight general purpose relays that are used to switch various loads: motor, pump, heater, and tungsten, for example, as well as light-duty incandescent and fluorescent loads for lighting applications.



FEATURES AND BENEFITS

- Eight built-in relays for separate on/off control of line voltage or low-voltage loads.
- 35mm DIN Rail mountable
- Optional in-room wireless network communications.
- Versatile hardware platform.
- High-Inrush current resistant relays

COMPATIBILITY/FUNCTION COMPARED TO REPLACEMENT PART - X05R.8

PARAMETER	SPECIFICATION
Is it straight swap for the replacement?	NO*
Is any rewiring required?	YES*
Is the new unit the same footprint?	YES
Are the new units compatible with the replacement?	YES
Is any re-programming work required on the server side and rest of the hardware products in a same room?	NO

* If replacing an X05R.8 with an X45R8, you must verify the load that was connected to the X05R.8 . The each X05R.8 relay was rated for 120VAC 15A Resistive/5A Tungsten and 240VAC 12A Resistive/5A Tungsten.

The X45R8 is rated for 120VAC 10A Resistive/5A Tungsten and 240VAC CE 5A Resistive/2.5A Tungsten. You may need to re-wire to loads to be within limits of the X45R8 or use the X45R_X06 (or multiple X45R_X06's) which has five 15A rated relays.

LOAD RATINGS

MODEL	VOLTAGE	TERMINAL	POWER/AMPERES	LOAD TYPE
X45R8 Relay Input	120VAC	COMMON P1-P4	12A MAX PER COMMON	Total Load
X45R8 Relays	120VAC	K1-K8	10A MAX	Resistive
			5A MAX	Tungsten
X45R8 Relay Input	240VAC	COMMON P1-P4	4A MAX PER COMMON*	Total Load
X45R8 Relays (CE Mark)	240VAC	K1-K8	5A MAX	Resistive
			2.5A MAX	Tungsten

* If both relays in common pair are used. 5A if single relay of pair used

SPECIFICATIONS

PARAMETER	SPECIFICATION
Input Voltage (H3/H4)	12VDC
Current Consumption	300mA
Digital Inputs and Outputs (H5)	4 open-collector digital outputs, 4 (0 - 5 VDC) Dry Contact Digital Input
Indicator LED's	Diagnostic led, status indication for analog and digital inputs and digital outputs.
Communications	S5bus
Dimensions	86.2 X 78.4 X 60 mm (L X W X H)
DIN Rail Type	35 X 15 mm (W X H)
Maximum Ambient Temperature	0 °C - 40 °C
Humidity	0 - 90 % RH
Approvals	FCC Part 15A, IC, EN60730-1 / EN61000-6-3, EN61000-6-1 immunity, RoHS EN 50581, UL 244A, UL 508

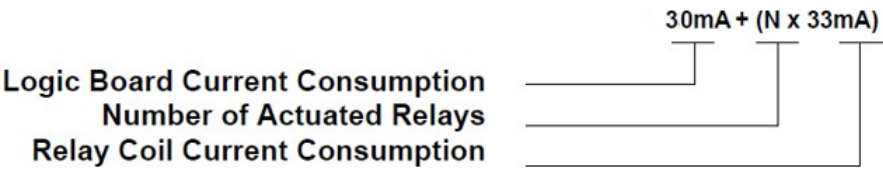
ORDERING INFORMATION

PART NUMBER	DESCRIPTION
201-837-R8	X45R8 ASSEMBLY - PROGRAMMED
HDR-30-12	PS567 (MEAN WELL DR-30-12 12V 2A OUTPUT Versn2)

SYSTEM OVERVIEW

FUNCTION	DESCRIPTION
Lighting	Relay driven lighting circuits.
Occupancy	Inputs PIR motion sensors, entry door switch, balcony/window switch, common / connected door logic.

X45R8 S5BUS AND DC INPUT



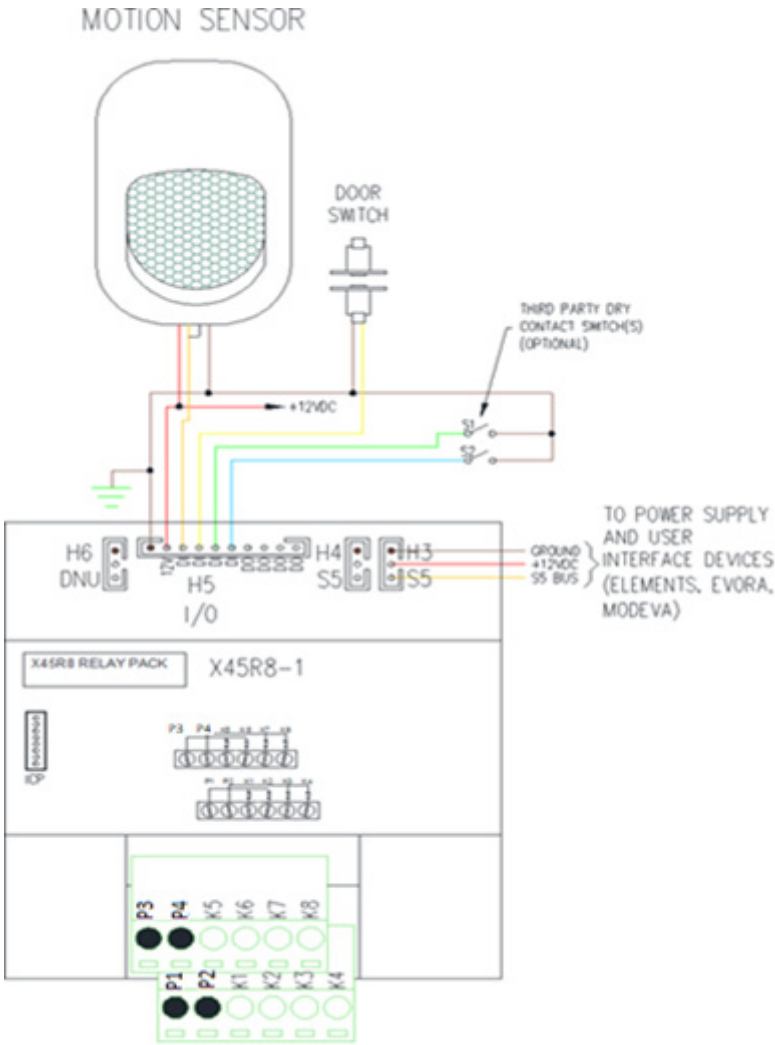
All X45R8 models are equipped with an onboard S5bus wired communication bus. Designing a reliably operating S5bus circuit depends on several factors, such as the quality of cables, cable length, the number of devices, and the general segregation of the guestroom networks. For more information on properly designing an S5bus network, refer to AN234 “S5-bus Electrical Design Guide.”

X45R8 DIGITAL INPUTS

The X45R8 digital inputs 1-4 (H5 Pins 3-6) are versatile and can support several applications within the CBL32 software features set, such as lighting, drape, motion sensors, and door switch contact inputs. The inputs can be momentary contact, normally open, closed, or toggled. All inputs on H5 are 5-volt logic pins and are internally pulled up to 5 VDC with a 10 K Ohm resistor.

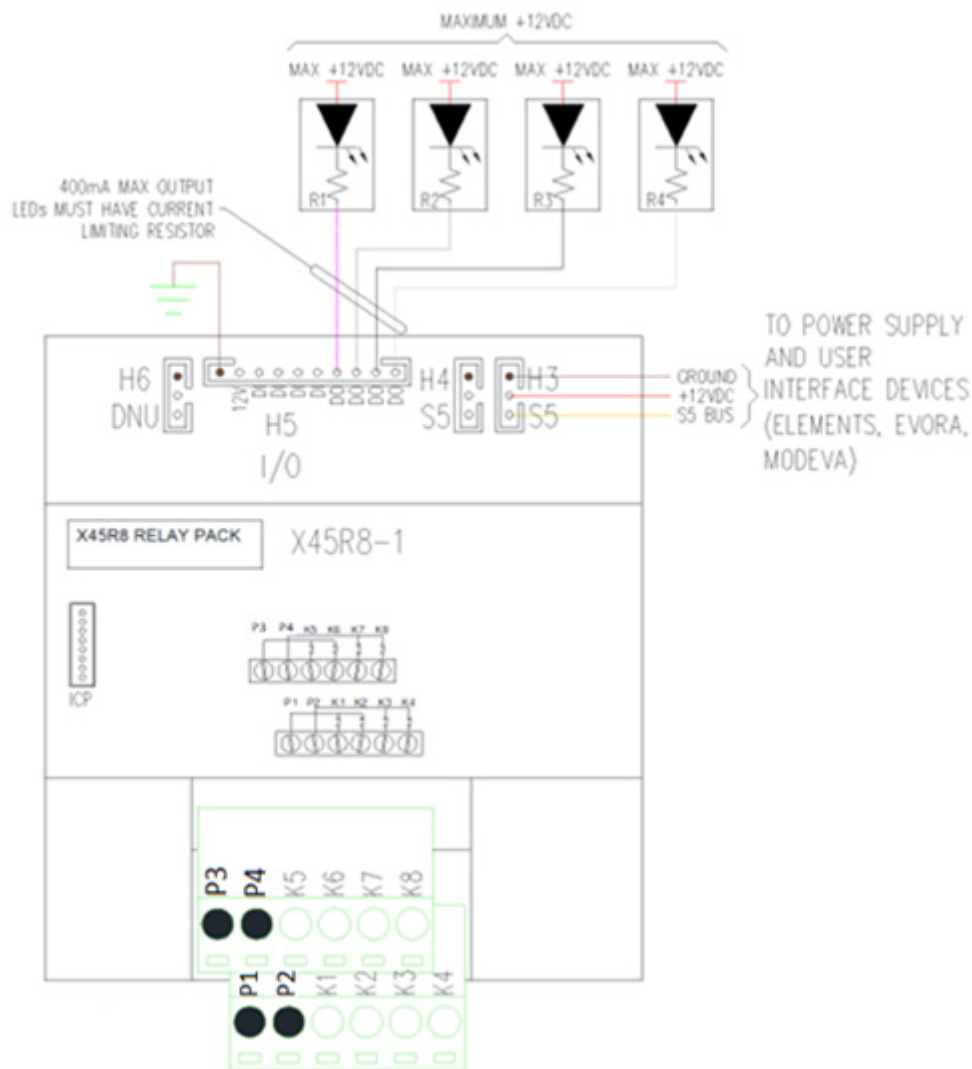
These inputs are intended to be shorted to the H5 Pin 1 GND (ground) via a switch. A voltage near 5 V is interpreted as logic zero, while a voltage near 0 V is considered a logic one. The input pin should never be connected to a voltage source greater than 5 V or less than 0 V, as damage to the circuit may occur. INNCOM does not recommend sourcing current from an input pin on X45R8.

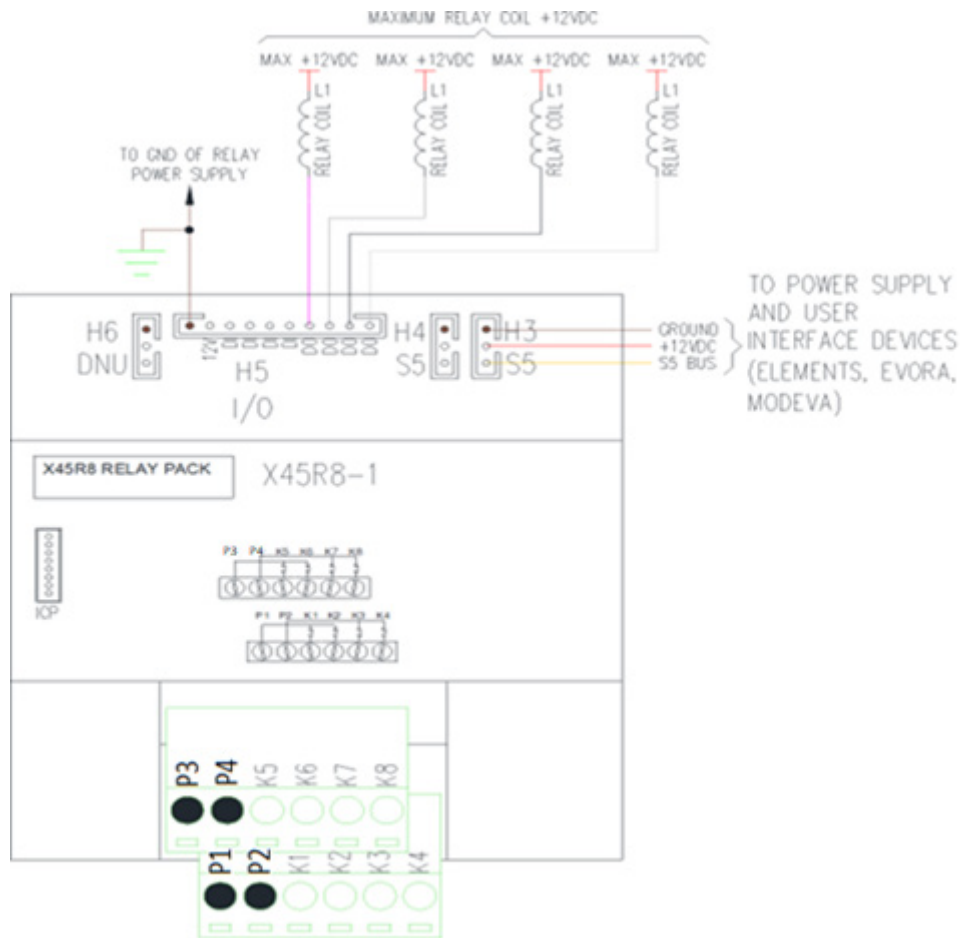
In the diagram, a K594 motion sensor and an S241 door switch are connected to the digital inputs of the X45R8 to provide the door and motion status for the INNCOM occupancy detection logic. The two other inputs are connected to 3rd party dry contact switches such as a 3rd party wall module or control panel.



X45R8 DIGITAL OUTPUTS

The outputs can also drive relays for drupe controllers and other state change-driven devices within the specification noted in this section. INNCOM recommends that devices such as relays and drupe controllers are connected to the X45R8 outputs and draw power from their power supply, as shown below. Coil current flowing through H5 cannot exceed 100 mA per pin for a total combined current draw on H5 not to exceed 400 mA.





RUNNING LONG CABLE LENGTHS

The X45R8 is installed in a Load Termination Panel (LTP) or Room Control Unit (RCU), and it is expected that the inputs and outputs tied to the unit will have long cable pulls. The X45R8 inputs are designed with a 10 K Ohm pull-up to prevent EMI, RFI, or minor impedance changes from impacting the product's function or performance. When used with adequately shielded CAT 5 cable, one should expect a reliable performance of cable pulls up to 10 meters. INNCOM does not recommend using long runs of unshielded cable. It will lead to noisy inputs, false state changes, and system performance degradation.

X45R8 ADDRESS TEACH SWITCH (SW1)

With the X45R8 housing cover in place, you will need a paper clip or similar tool to insert into the hole above the K4 LED indicator to press SW1. The X45R8 can be reset by pressing and holding SW1 for more than 4 seconds. The following address teaches instructions assuming the product installer has a working knowledge of the INNCOM system or is an INNCOM by Honeywell installer. For more help commissioning the X45R8, please visit our website at <https://www.inncom.com/en-us/resources/Pages/default.aspx>.

FUNCTIONS

SW1 is used for teaching the X45R8 a specific Address or function map.

Using the INNCOM thermostat service mode or PC configuration tool, send a "Device Address Teach" or "IOMap Teach" command to the X45R8..

Observe the X45R8 Diag LED change to a Fast Blink pattern (3 blinks per second), indicating it is ready to accept the new configuration..

Press SW1 on the X45R8..

The Diag LED will change to a medium blink pattern for 8 seconds, the X45R8 will Reset , and on startup rapidly blink the Diag LED for 4 seconds..

Listen for the thermostat to beep or look for an indication on the PC configuration tool confirming that the configuration was successfully changed on the X45R8..

X45R8 DIAGNOSTIC LED

LED BEHAVIOUR	DESCRIPTION
Off	X45R8 is not powered.
On for 1 second, Off for 1 second, and repeating	The X45R8 is powered but has not received a "Central Status Broadcast" from the Room Gateway so it does not think the room is online/connected to the Inncom server.
A blink once per second and repeating	The X45R8 is powered and has received a "Central Status Broadcast" from the Room Gateway so it thinks the room is online/connected to the Inncom server..
Steady Rapid Blink (3 blinks per second)	The X45R8 has received an Address or I/O Map teach command. Press the SW1 button on the X45R8 to accept the teach command.
Eight blinks 1/2 seconds apart, followed by a very rapid blink for 4 seconds	The X45R8 was just taught and accepted an Address or I/O Map and then Reset.
On for 1 second , followed by a very rapid blink for 4 seconds	The X45R8 just had power applied or was Reset , or the SW1 switch was pressed and the X45R8 sent a reverse bind command but never received a Bind/Configuration offer

X45R8 POWER OUTAGE AND RESTORATION

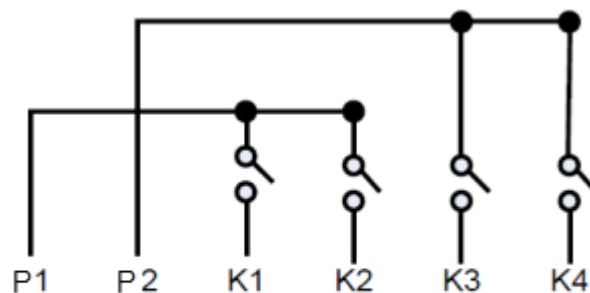
All INNCOM devices have an onboard non-volatile memory, used to store the operating state of the X45R8 in case of a power outage. The unit will initiate a brief power-up sequence with the restoration of communications or power. After the power-up is complete, the unit will return to the last known configuration state.

DEEP MESH RF

INNCOM's Deep Mesh technology is a 2.4 GHz wireless RF network optimized for the hotel guestroom controls equipment. The X45R8 can be optionally equipped with a PC-502 (PN: 201-502.2.WH) wireless transceiver connected to the S5bus, which allows it to send and receive commands from the guestroom devices on the Deep Mesh network. Every INNCOM LTP is recommended to be equipped with 1 PC-502 to support in-room commissioning from the INNCOM software tools INNTTool and engINN.

TB1 PHASE INPUT AND RELAY OUTPUT

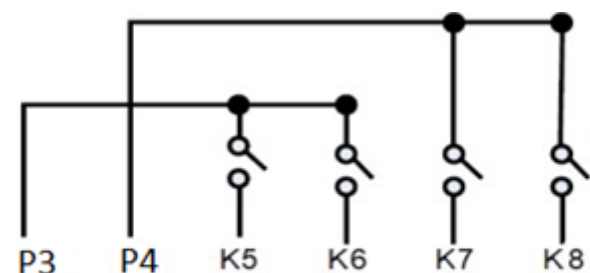
PIN	SIGNAL	FUNCTION
1	P1	100-240 VAC 50/60Hz Input (Phase 1- Common)
2	P2	100-240 VAC 50/60Hz Input (Phase 2- Common)
3	K1	K1 Relay Output
4	K2	K2 Relay Output
5	K3	K3 Relay Output
6	K4	K4 Relay Output



P1, P2 = Phase Input
K1-K4 = Relay Switched Output

TB2 PHASE INPUT AND RELAY OUTPUT

PIN	SIGNAL	FUNCTION
1	P3	100 - 240 VAC 50/60 Hz Input (Phase 1- Common)
2	P4	100-240 VAC 50/60 Hz Input (Phase 2- Common)
3	K5	K5 Relay Output
4	K6	K6 Relay Output
5	K7	K7 Relay Output
6	K8	K8 Relay Output



P3,P4 = Phase Input
K5-K8 = Relay Switched Output

X45R8 HEADERS

H3, H4 S5BUS IN / S5 OUT

PIN	SIGNAL	FUNCTION	COLOR
1	GND	Ground	Brown
2	VEE	12 VDC	Red
3	S5bus	Communication Bus	Orange

H1 IN CIRCUIT PROGRAMMING HEADER -MAIN MICRO

PIN	SIGNAL	FUNCTION
1-8	Various	Programming header for programming the main micro. Use 03-0501

H5 DIGITAL INPUT / OUTPUT

PIN	SIGNAL	FUNCTION	LED
1	GND	Ground	NA
2	VEE	12 VDC	NA
3	In1	0-5 VDC Dry Contact Input	D1
4	In2	0-5 VDC Dry Contact Input	D2
5	In3	0-5 VDC Dry Contact Input	D3
6	In4	0-5 VDC Dry Contact Input	D4
7	Out5	Open-Collector Output	D5
8	Out6	Open-Collector Output	D6
9	Out7	Open-Collector Output	D7
10	Out8	Open-Collector Output	D8

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31-00595-01 | Rev.03-23

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