

## XP95 3 x Input Output Unit C/W Isolator

Item Number: 201-0175

### Installation guide

#### Description

The XP95 3-Channel Input/Output Unit with Isolator is a loop-powered device providing three monitored inputs and three changeover relay outputs, the 3-Channel I/O unit is housed in an IP66 polycarbonate enclosure which has 10 cable entry knockouts. The knockouts are suitable for PG16 or M20 cable glands. The XP95 3-Channel I/O Unit is also available as a PCB only.

*Note: This unit is not designed for outdoor use unless it is mounted in a suitable weatherproof enclosure.*

#### Installation

**Observe anti-static precautions at all times**

##### Surface Mounting

1. Mounting units with enclosure
2. Position the polycarbonate housing as required
3. Install and terminate all cables ensuring functional earth continuity is maintained
4. Set the address and the desired LED indication as shown over leaf
5. When commissioning is complete, select the desired LED indication for normal operation.
6. Fit the enclosure lid ensuring that the rubber seal is undamaged. Note: do not use excessive torque on the lid retaining screws

##### Mounting PCB only

1. Secure the PCB to a suitable enclosure using M4 PCB spacers or similar.
2. Install and terminate all cables ensuring functional earth continuity is maintained

3. Set the address and the desired LED indication as shown over leaf
4. When commissioning is complete, select the desired LED indication for normal operation.

#### Commissioning

It is important that the XP95 3 x Input Output Unit with Isolator be fully tested after installation. An XP95 Test Set may be used to carry out functional testing of individual units. It can also be used to perform data integrity test of the entire loop

*Note: If this product has been subjected to excessive shock during transportation, it may be received with the relay contacts in the 'set' position. Reset the relay by subjecting it to one operating cycle before commissioning the system.*

#### LED Indicators

**Switch Closed (x3):** Illuminated red when monitored field contact is activated

**Fault (x3):** Illuminated yellow when input is open or short circuit

**Relay on (x3):** Illuminated red when relay energised

**Isolator:** Illuminated yellow when a short circuit on the XP95 loop cause the integral isolator to operate

The use of all the LED's with the exception of the isolator LED, can be disabled by setting the 'LED ENABLE' (eighth) segment of the DIL switch to 'DISABLE'.

It is recommended that the LED's be disabled for normal operation.

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**Wiring Details**

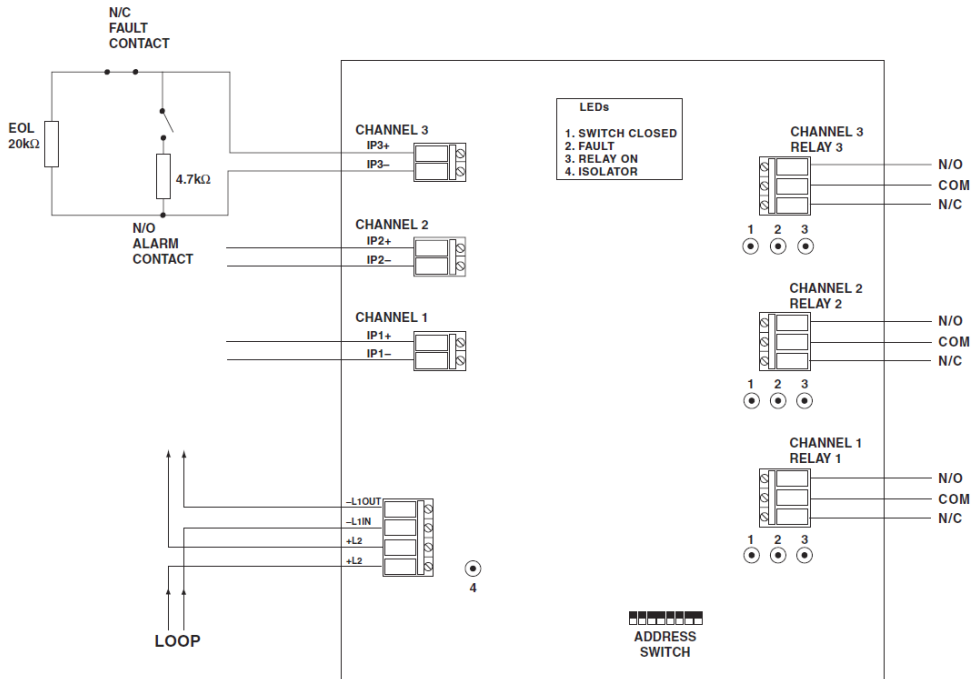


Figure 1: Wiring Details

**Current consumption at 24V (no protocol)**

**LED Enabled**

Switch on surge 150ms	6.5mA
Quiescent 20KΩ EOL fitted	3mA
Switch Inputs Closed	6mA
Relays Operated	5.5mA
'Worst Case' i.e. 3 SW I/Ps closed 3 relays operated, 6 LED's on	7.5mA

**LED Disabled**

Switch on surge 150ms	6.5mA
Quiescent 20KΩ EOL fitted	3mA
Switch Inputs Closed	4mA
Relays Operated	3.5mA

Relay O/P contact rating at 30V AC or DC = 1A (inductive or Resistive)

For a full technical specification of the XP95 3-Channel I/O Unit with Isolator, refer to AMPAC PDS201-0175

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**Address DIL Switch Settings**

The address of the Manual Call Point is set using the 7 way DIL switch. All segments of the switch are set to 0 or 1, using a small screwdriver or similar tool. A complete list of address settings is shown below.

DIL switch setting		DIL switch setting		DIL switch setting		DIL switch setting		DIL switch setting	
Address	1234567	Address	1234567	Address	1234567	Address	1234567	Address	1234567
1	1000000	26	0101100	51	1100110	76	0011001	101	1010011
2	0100000	27	1101100	52	0010110	77	1011001	102	0110011
3	1100000	28	0011100	53	1010110	78	0111001	103	1110011
4	0010000	29	1011100	54	0110110	79	1111001	104	0001011
5	1010000	30	0111100	55	1110110	80	0000101	105	1001011
6	0110000	31	1111100	56	0001110	81	1000101	106	0101011
7	1110000	32	0000010	57	1001110	82	0100101	107	1101011
8	0001000	33	1000010	58	0101110	83	1100101	108	0011011
9	1001000	34	0100010	59	1101110	84	0010101	109	1011011
10	0101000	35	1100010	60	0011110	85	1010101	110	0111011
11	1101000	36	0010010	61	1011110	86	0110101	111	1111011
12	0011000	37	1010010	62	0111110	87	1110101	112	0000111
13	1011000	38	0110010	63	1111110	88	0001101	113	1000111
14	0111000	39	1110010	64	0000001	89	1001101	114	0100111
15	1111000	40	0001010	65	1000001	90	0101101	115	1100111
16	0000100	41	1001010	66	0100001	91	1101101	116	0010111
17	1000100	42	0101010	67	1100001	92	0011101	117	1010111
18	0100100	43	1101010	68	0010001	93	1011101	118	0110111
19	1100100	44	0011010	69	1010001	94	0111101	119	1110111
20	0010100	45	1011010	70	0110001	95	1111101	120	0001111
21	1010100	46	0111010	71	1110001	96	0000011	121	1001111
22	0110100	47	1111010	72	0001001	97	1000011	122	0101111
23	1110100	48	0000110	73	1001001	98	0100011	123	1101111
24	0001100	49	1000110	74	0101001	99	1100011	124	0011111
25	1001100	50	0100110	75	1101001	100	0010011	125	1011111
								126	0111111

**Functional Test Data**

OUTPUT BIT	FUNCTION	INPUT BIT	FUNCTION
2	OPERATES RELAY 3	2	STATUS OF INPUT 3
	1 = ON		0 = Normal
	0 = OFF		1 = Switch Closed
1	OPERATES RELAY 2	1	STATUS OF INPUT 2
	1 = ON		0 = Normal
	0 = OFF		1 = Switch Closed
0	OPERATES RELAY 1	0	STATUS OF INPUT 1
	1 = ON		0 = Normal
	0 = OFF		1 = Switch Closed

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**Troubleshooting**

Before investigating individual units for faults, it is very important to check that the system wiring is fault free. Earth faults on a data loop or any ancillary zone wiring may cause communication errors.

Many fault conditions are the result of simple wiring errors. Check all connections to the unit and make sure the correct value resistors are fitted where necessary.

<b>Problem</b>	<b>Possible Cause</b>
No response or missing	Incorrect address setting Incorrect loop wiring
Fault condition reported	Incorrect input wiring EOL resistor missing
Relay fails to operate	Incorrect wiring Control panel has incorrect cause and effect programming
Relay energised continuously	Incorrect loop wiring Incorrect address setting
Analogue Value unstable	Dual Address Loop data fault data corruption
Constant Alarm	Incorrect wiring Incorrect EOL resistor fitted Incompatible control panel software
Isolator LED on	Short circuit on loop wiring, wiring reverse polarity Too many devices between isolators