XD Current Transducers

Operating Instructions

May 2001

(Mmm-YY QKP)

1 XD Transducer Types

1.1 Current Input Ranges

All XD transducers monitor AC Amps in a conductor passing through the hole in the device. 3 basic types are available, each with a user selectable nominal input range.

TYPE	RANGE 1	RANGE 2	RANGE 3	RANGE 4	RANGE 5	RANGE 6
1	0-5 A	0-10 A	0-15 A	0-20 A	0-25 A	0-30 A ①
2	0-15 A ①	0-30A A	0-45A A	0-60A A	0-75 A	0-100 A
3	0-50 A ①	0-100 A	0-150 A	0-200 A	0-250 A	----------

Note 1: These ranges may be selected but operate at reduced accuracy.

1.1.1 DIP Switch Settings

DIP switches located on the underside of each device are used to select the required input current range for an XD transducer.

RANGE 1	RANGE 2	RANGE 3	RANGE 4	RANGE 5	RANGE 6
■■■■■■	■ ■■■■■	■■ ■■■■	■■■ ■■■	■■■■ ■■	■■■■■■
1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6

1. DIP Switch Settings

1.2 XD-V5 5V DC Output

XD-V5 series transducers convert the selected input current range (0 - XXX Amps) to 0-5V DC output. The output signal is self powered and isolated from the input conductor by >4kV.

The voltage output is intended for input to high impedance (>250kΩ) devices such as multi-meters, chart recorders, data loggers pc cards etc.

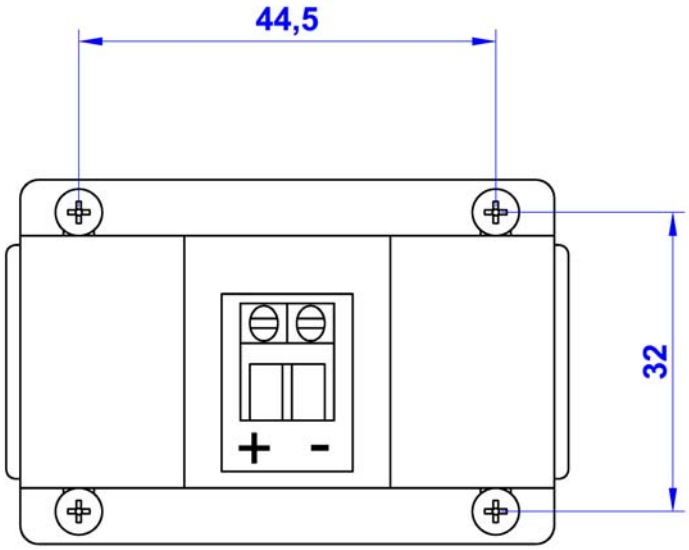
1.3 XD-I420 4-20mA DC Output

The XD-I420 series of transducers convert the selected input current range (0 - XXX Amps) to 4-20mA DC output. The output draws current from an external loop power supply (nominal 24V dc, not supplied). An input current of zero amps will result in an output of 4mA and a full-scale input (depends on selected range) gives 20mA.

2 Mounting The Unit

2.1 Panel Mounting

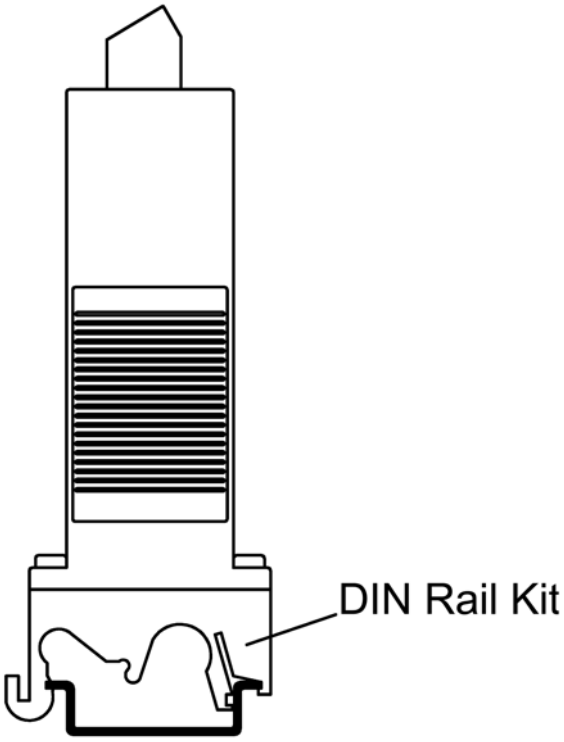
Four mounting holes are provided which enable the XD transducer to be screwed to a flat panel or mounting plate.



2. Panel Mounting Template

2.2 DIN Rail Mounting

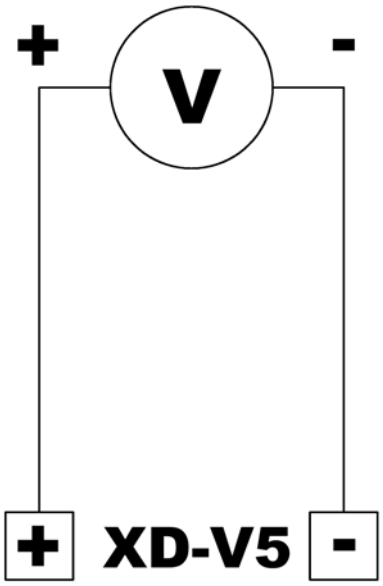
A mounting kit for symmetrical DIN rail (DIN EN 50022) is available which is attached to the XD transducer with 4 screws as shown below.



3. DIN Rail Mounting Option

3 Connection

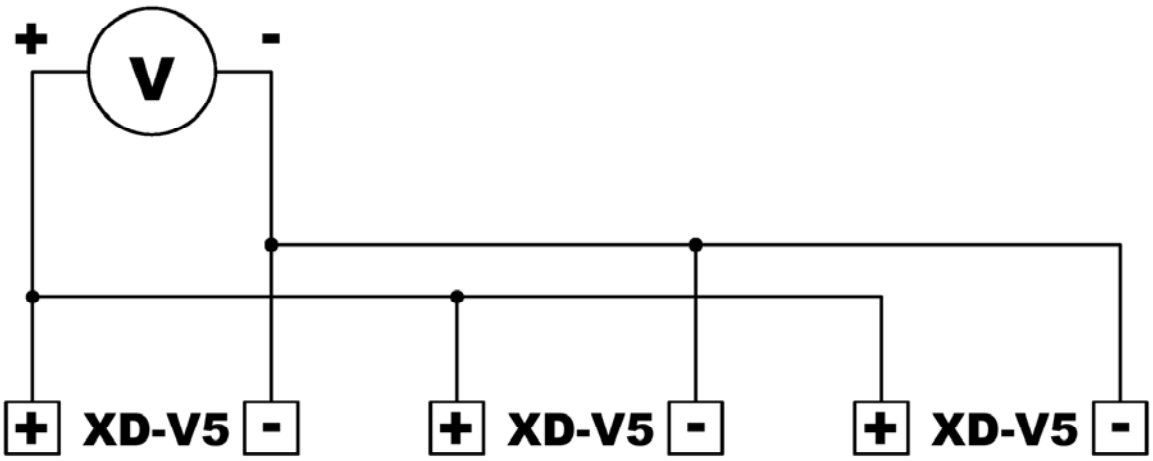
3.1 XD-V5 Connection



4. Standard 5V DC Output Connection

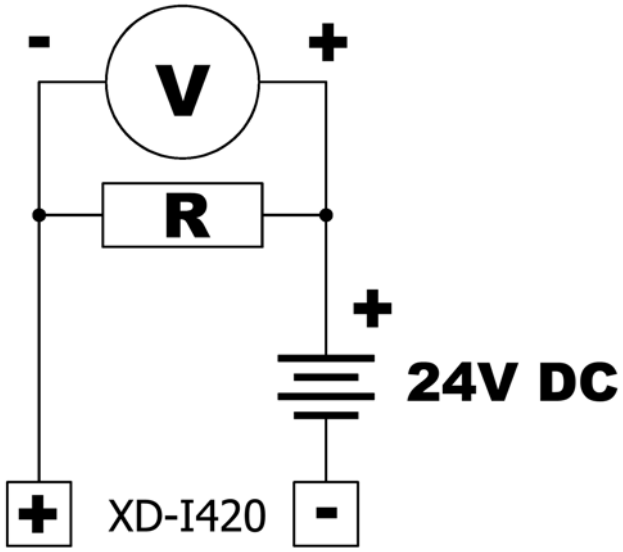
It is possible to use several XD-V5 transducers to measure the average current in multiple conductors. The output range is 0-5V corresponding to the average of the current in all the conductors.

NOTE: Similar XD-V5 types must be used, set to the same nominal input range.



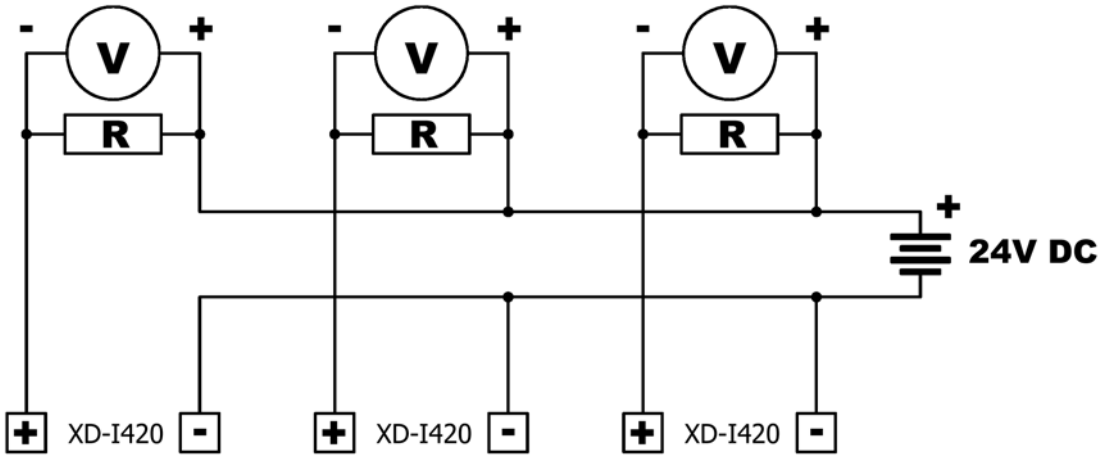
5. Measuring Average Current in Multiple Conductors

3.2 XD-I420 Connection



6. Standard 4-20mA DC Output Connection

It is possible to use a single 24V DC supply to power multiple XD-I420 type transducers.



7. XD-I420 Units Powered from a Single DC Supply

4 Specification

Nominal Input Ranges	
XD Type 1	Selectable 0-5A, 0-10A, 0-15A, 0-20A, 0-25A or 0-30A*.
XD Type 2	Selectable 0-15A*, 0-30A, 0-45A, 0-60A, 0-75A or 0-100A.
XD Type 3	Selectable 0-50A*, 0-100A, 0-150A, 0-200A or 0-250A.

Output Ranges	
XD-V5	0-5V dc.
XD-I420	4-20mA dc.

Measurement Range	
XD-V5	0-120% of nominal input range selected.
XD-I420	0-100% of nominal input range selected.
Input Overload	2 x Nominal input range selected, continuous. 15 x Nominal input range selected for 10 seconds.

Accuracy (All Types)	
Typical	± 0.5%. FS. (Reduced accuracy ranges ±1% FS)
Maximum	± 1.0%. FS. (Reduced accuracy ranges ±3% FS)

Loop Supply (XD-I420 only)	
Voltage	Minimum 12V dc, Nominal 24V dc, Maximum 36V dc.
Burden (cable etc)	250Ω Nominal, 600Ω Maximum.
Current Rating	30mA per XD-I420 Connected.

Miscellaneous	
Isolation	Input to Output 4kV, 50Hz, 1 second.
Frequency Range	45 – 65 Hz standard.
Response Time	1 Second nominal.
Temperature	Operating 0 to 60 deg C. Storage –20 to +70 deg C.
Humidity	95 % RH (non-condensing).
Dimensions	L=60mm, W=27mm, H=94mm

Note : Ranges marked * operate at reduced accuracy.