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DIN12-28 V12 – Full Specification

Supply voltage:	90-265 V ac 47-63 Hz
Output x 1:	Supply voltage. 200mA.
Inputs x 2 :	5V dc 5mA to volt free contacts
Fusing:	5x20mm F 1A
Status LEDs :	3 x red, 2 x tri-colour. LED 1: Power/un-commissioned LED 2: Relay energized LED 3: Limit switch status LED 6: Data transmit LED 7: Data receive
Communications driver protection:	3kV ESD protected Short circuit proof Thermal shutdown
Timers:	Damper opening timer 120s Damper closing timer 20s Comms fault watchdog 8s
Enclosure dimensions:	180x110x60mm
Material:	Polystyrene
Flammability rating:	Self extinguishing to UL 94
Colour:	Light grey with smoked transparent lid
IP rating:	56
Environment:	0-70º C ambient 80% RH non-condensing
Cable entry:	5 x cable glands fitted Cable dia. 5-10mm

Principles of operation

1. Prior to commissioning

The DIN 12-28 V12 will upon power being applied energise the output relay. The actuator should then drive the damper to its open or closed position according to the damper type. This can enable airflow balancing to be undertaken prior to damper control commissioning. If the un-powered state is required, then power can be removed.

The un-commissioned state of the DIN12-28 V12 is indicated by the green power LED flashing amber.

2. Commissioning

The unit is configured through local programming via the programming port with parameters including the unit address, damper type, membership of zones and override groups.

3. Operation

Providing the DIN 12-28 V12 receives a constant stream of 'no fire' messages the output will remain in its normal state i.e. relay energized. On receipt of the 'fire' message the output relay is switched off. Failure to receive a 'fire' or 'no fire' message for 8 seconds will always result in the output relay being turned off (failsafe).

Two inputs are provided for the driven and un-driven limit switches on the actuator. The DIN 12 transmits a message to the panel indicating the status of these switches, along with the damper type. The panel will then display this as 'open' or 'closed' accordingly. If the limit switches are not made after the timeout period the DIN 12-28 V12 will transmit a fault message to the panel.

Damper types:	1 driven open, spring close on fire
	2 driven closed, spring open on fire

4. Indicators

Five LEDs are provided on the V12 version of the DIN 12-28.
The first is the green power on LED, which will flash amber when the DIN 12-28 is in the un-commissioned state.
The second LED indicates the status of the actuator. Green for open, flashing green for opening, flashing red for closing and red for closed. If a fault is detected with the damper state then this LED will show amber.
The third LED indicates that the output relay has been energized.
The fourth and fifth LEDs are not fitted on the V12.
The sixth LED will flash briefly when the DIN 12-28 transmits a message on the comms line.
The seventh LED will flash briefly when the DIN 12-28 receives a valid message.

Installation

The DIN 12-28 V12 should be fixed to a flat surface using at least 2 screws and appropriate wall fixings via the corner mounting holes (see drawing.) M4 (No:8) screws are recommended.

Mains flex should be sized according to the fuse rating of the local fused spur. For the DIN 12-28 V12 a 3A flex is sufficient, however this can only be used if the spur is fused at 3A. If the cable dia. is less than 5mm additional strain relief must be used.

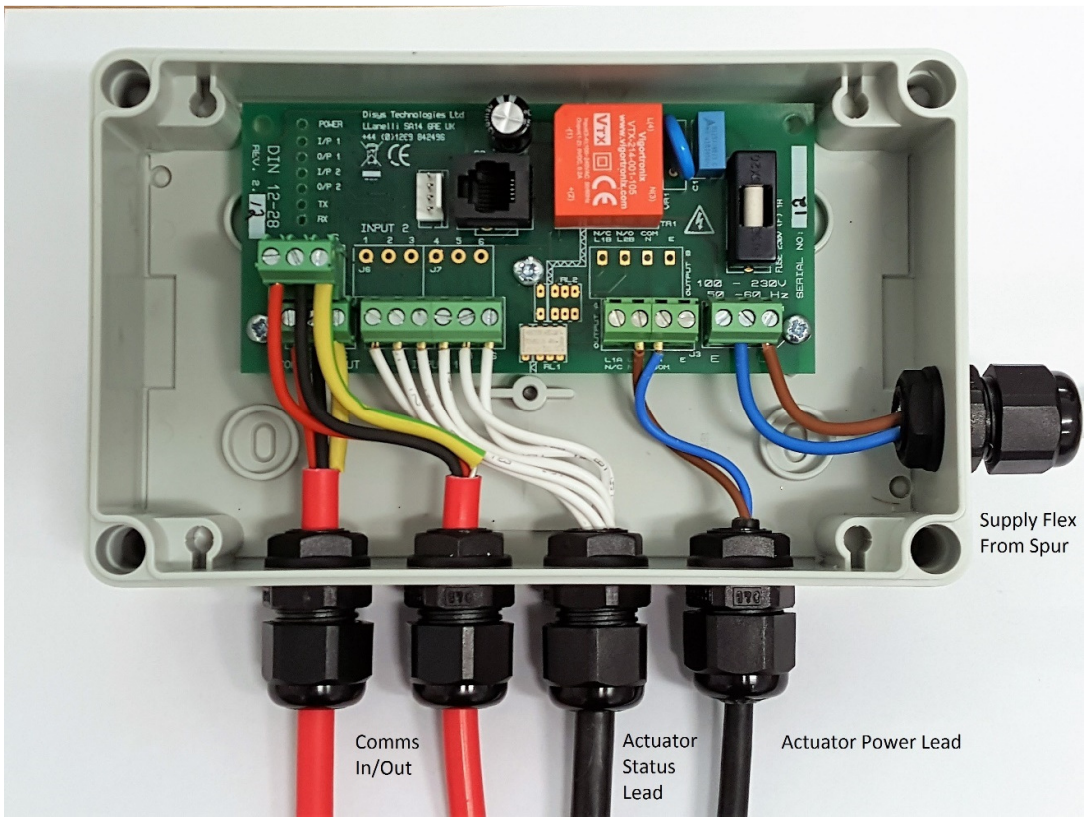
For Belimo actuators a two core flex is sufficient. An earth terminal is provided for convenience.

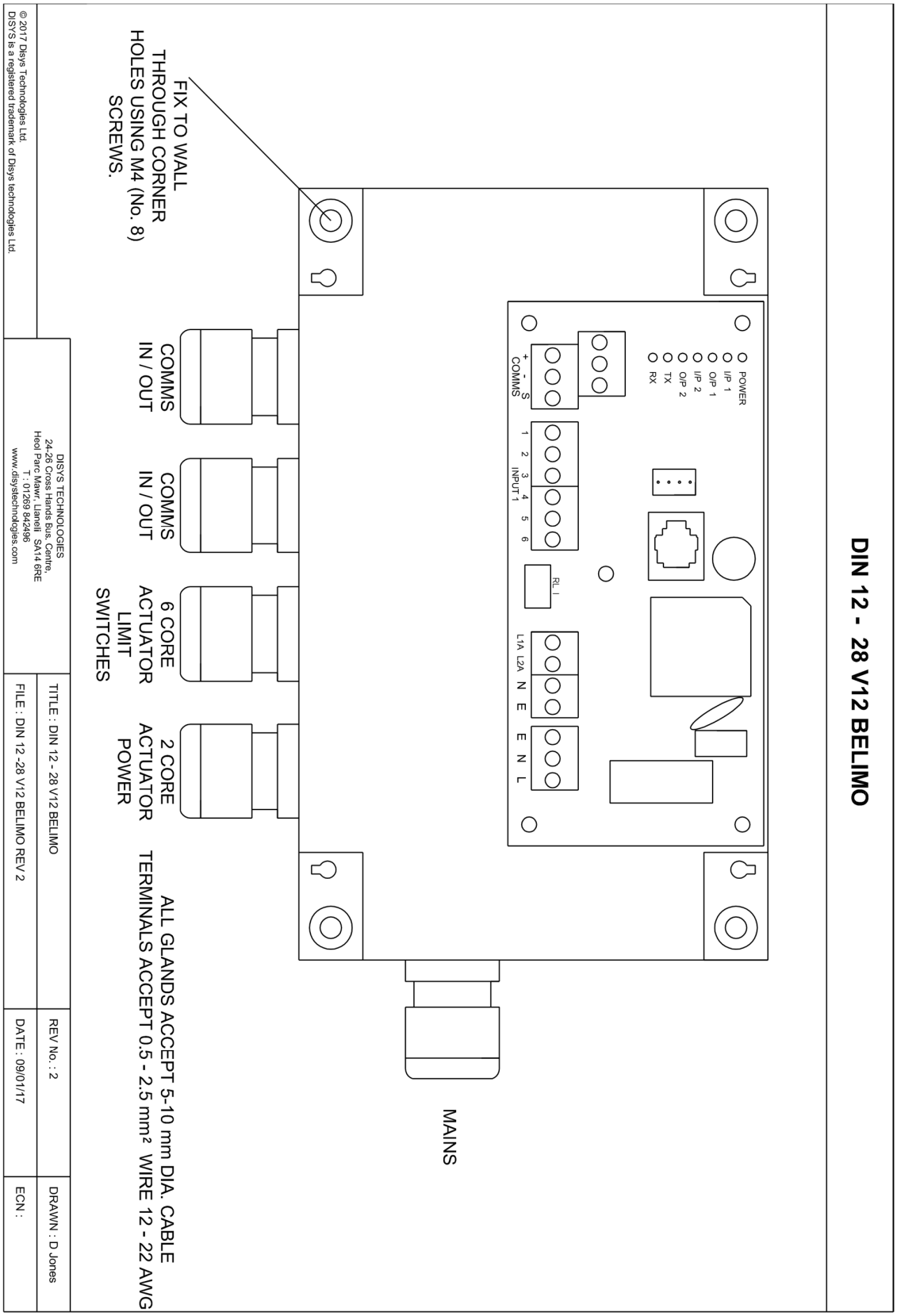
The actuator power cable blue core must be connected into the Neutral-Common terminal and the brown live core into the L2A-N/O.

The six core actuator status (limit switch) cable has cores numbered one to six, these are fitted to their respective terminals on input 1 connector.

The comms cable in/out is not direction sensitive. (Either cable gland and set of terminals may be used for in and out.)

FP200 1.5mm^2 is the most commonly used comms cable, however the system will operate using virtually any 2 core screened cable. If using a thin cable eg BELDEN 9841, 70001E, or equivalent, then additional strain relief may be required at the cable entry and ferrules should be used on the ends of the wires if the wire size is less than 0.5mm or 22 AWG.




DIN 12 - 28 V12 BELIMO
POWER
I/P 1
O/P 1
I/P 2
O/P 2
TX
RX
+ - S
COMMS
1 2 3 4 5 6
INPUT 1
RL 1
L1A L2A N E E N L
FIX TO WALL THROUGH CORNER HOLES USING M4 (No. 8) SCREWS.
COMMS IN / OUT
COMMS IN / OUT
6 CORE ACTUATOR LIMIT SWITCHES
2 CORE ACTUATOR POWER
MAINS
ALL GLANDS ACCEPT 5-10 mm DIA. CABLE
TERMINALS ACCEPT 0.5 - 2.5 mm² WIRE 12 - 22 AWG
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