



DIN 12S 230V – Specification Rev 1

Supply voltage:	90-265 V ac 47-63 Hz	Fusing:	5x20mm F 1A
Output x 1:	Supply voltage @ 100mA.	Inputs x 2 :	5V dc 5mA to volt free contacts
Status LEDs :	3 x yellow, 2 x tri-colour.		
LED 1:	Power/un-commissioned.	LED 2:	Output on
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 60s	Damper closing 60s	Comms fault watchdog 45s
Enclosure dimensions:	180x110x60mm	Material:	Polystyrene
Flammability rating:	Self-extinguishing to UL 94	Colour:	Light grey with smoked transparent lid
IP rating:	56	Environment:	0-70° C ambient 80% RH non-condensing
Cable entry:	5 x cable glands fitted for cable dia. 5-10mm		

Installation

The DIN 12S 230V should be fixed to a flat surface using at least 2 screws and appropriate wall fixings via the corner mounting holes using M4 (No:8) screws.

Mains flex should be sized according to the fuse rating of the local fused spur. For the DIN 12S 230V a 0.75mm² flex is sufficient, however this can only be used if the spur is fused at 3A. If the cable outside dia. is less than 5mm additional strain relief must be used inside the enclosure.

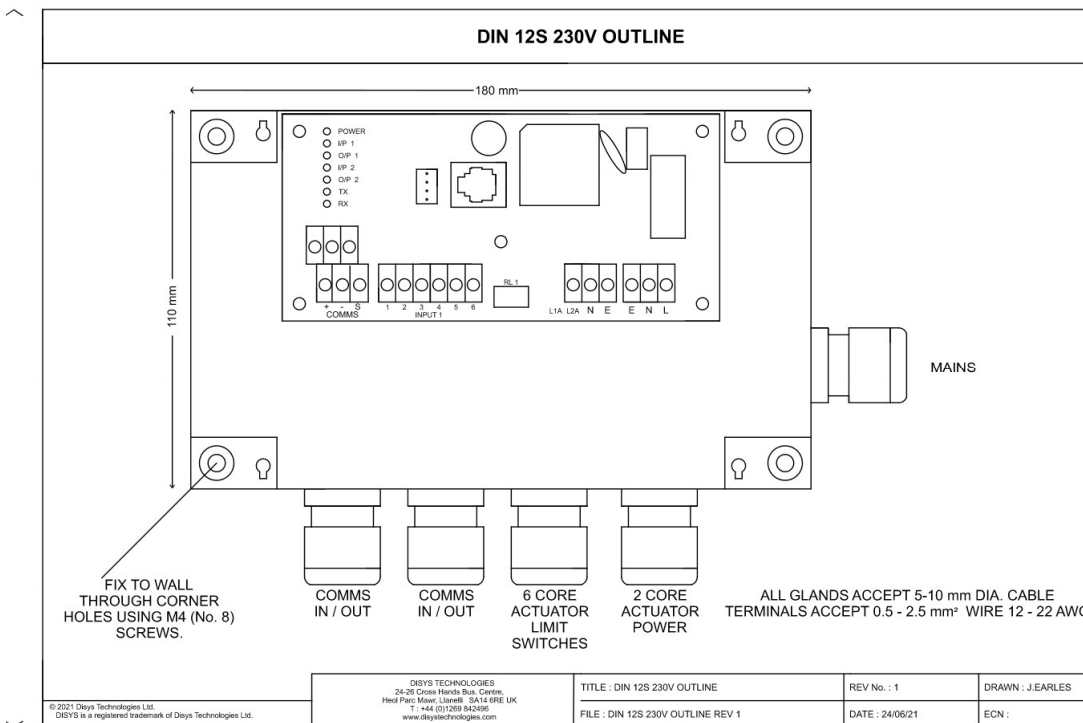
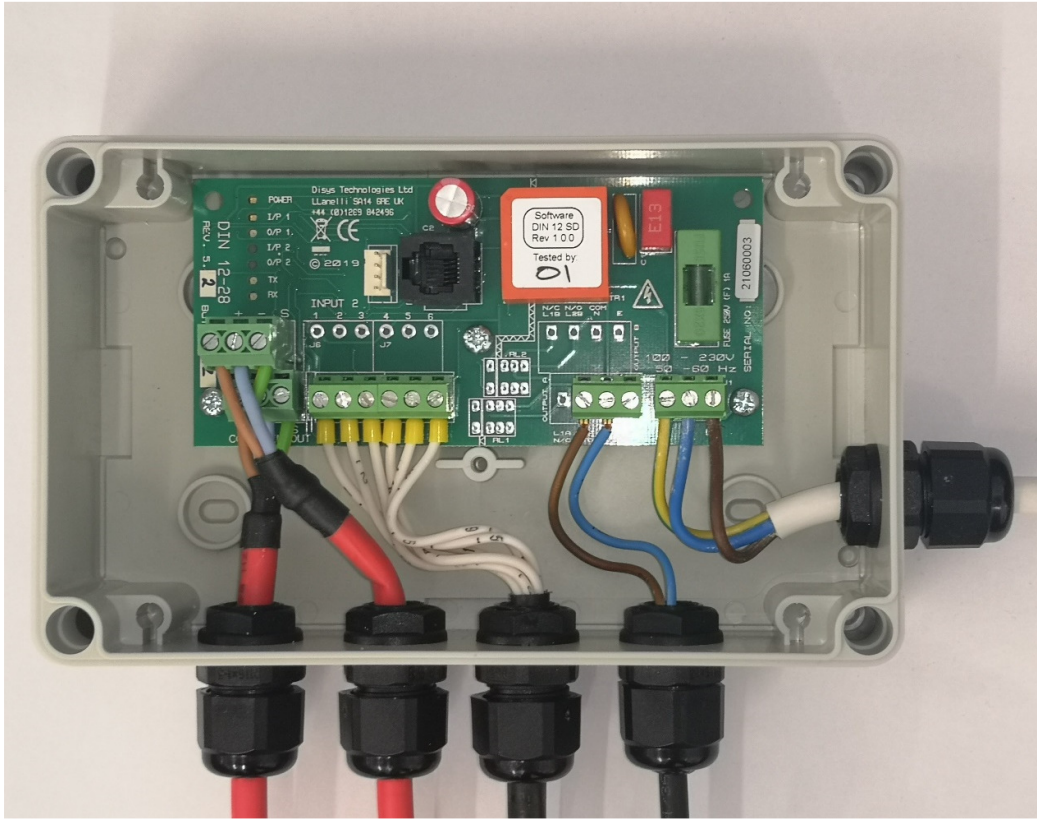
Where double insulated Belimo actuators are being used a two core power flex is sufficient. An earth terminal is provided for convenience and for actuator types requiring a safety ground.

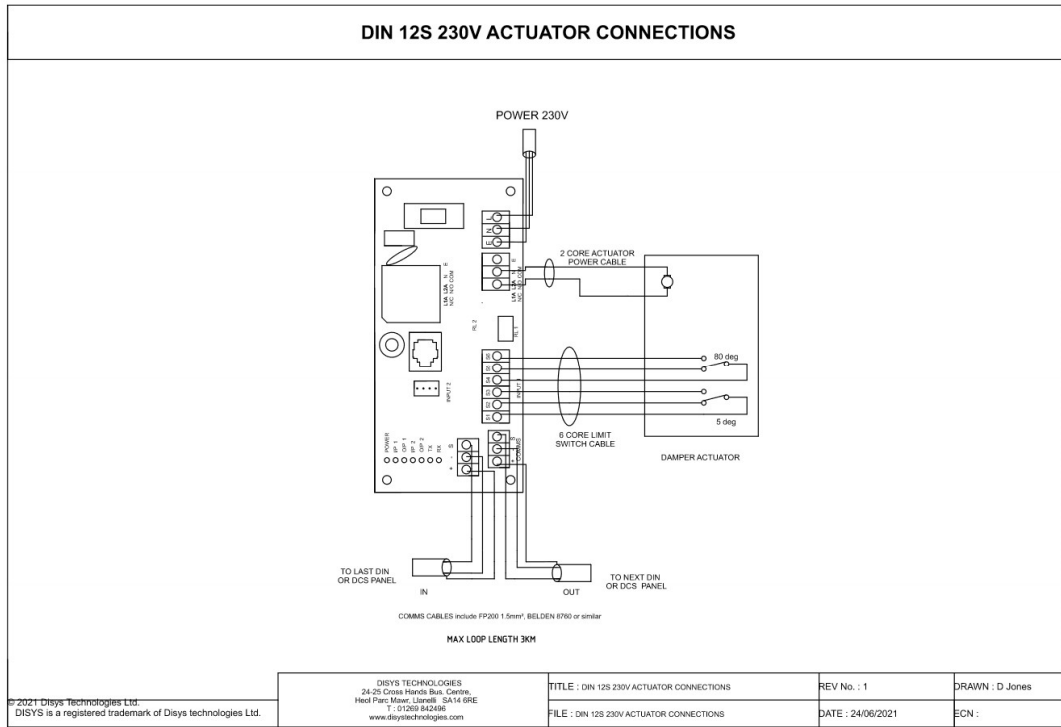
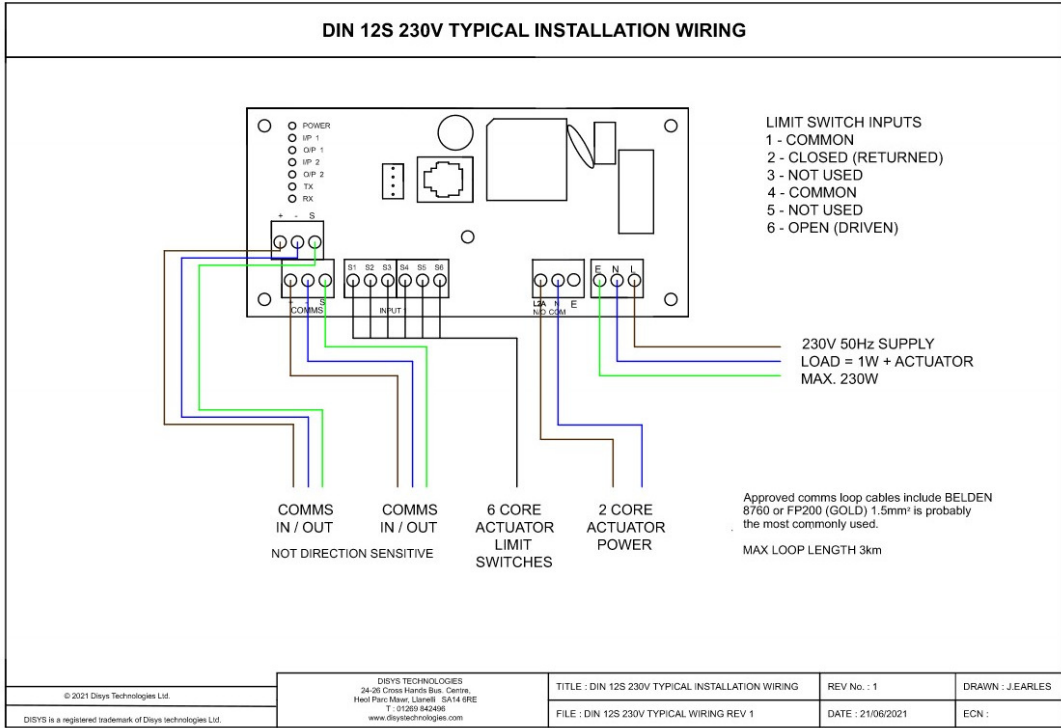
The actuator power cable blue core must be connected into the N-Com terminal and the brown live core into the L2A-N/O.

The typical Belimo six core actuator status (limit switch) cable has cores numbered one to six, these are fitted to their respective terminals on input 1 connector. For other actuator types eg four core limit switch cable, please ask for connection drawings.

The comms cable in/out is not direction sensitive. (Either cable gland and set of terminals may be used for in and out.) DO NOT CONNECT COMMS SCREEN TO EARTH. Use the 'S' terminal provided.

FP200 1.5mm² or BELDEN 8760 are 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. Ferrules should be used on the ends of the wires if the wire size is less than 0.5mm or 22 AWG.





Principles of operation

1. Prior to commissioning

The DIN 12S 230V will upon power being applied energise the output. 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 DIN 12S 230V 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 12S 230V 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 being turned off (failsafe).

Two inputs are provided for the driven and un-driven limit switches on the actuator. The DIN 12S 230V transmits a message to the panel indicating the status of these switches. The panel will then display this as 'open' or 'closed' accordingly. If the limit switches are not made after the timeout period the DIN 12S 230V will transmit a fault message to the panel.

Damper types:	1 driven open, spring closed
	2 driven closed, spring open
Drive types:	Drive in normal state
	Drive in alarm state

4. Indicators

Five LEDs are provided on the DIN 12S 230V.

The first is the red power on LED, which will flash amber when the DIN 12-28 is in the un-commissioned state.

The second LED indicates the limit switch status of the actuator. Green for open, flashing green for opening, flashing red for closing and red for closed. If both limit switches are made a fault is indicated by this LED showing amber.

The third yellow LED indicates that the output to the actuator has been energized.

The fourth and fifth LEDs are not fitted on the DIN 12S 230V.

The sixth LED will flash briefly when the DIN 12S 230V transmits a message on the comms loop.

The seventh LED will flash briefly when the DIN 12S 230V receives a valid message.