



Product Summary & Overview

A new variant of the Intuitive Stepper Module with Auto-Close is now available. The new build (PR0653-C) incorporates the following change:

- In the event of loss of CAN bus communications with the main controller, after a period of 60 seconds the PR0653-C will fully close the valve until communications are re-established.

Previously in the original variant of the module (PR0653) a loss of CAN bus communications for 60 seconds prompted the valve to remain at the average step position of the last hour.

Customers now have the option of either the PR0653 or the PR0653-C depending on their application requirements. The only difference in operation between the two variants is the actions performed in the event of CAN bus communications loss.

Both variants feature an internal backup power supply. Based on supercapacitor technology, it is intended to close a Stepper valve should a power fail be detected.

The modules will run as configured in the parent device's control strategy until power to the module is interrupted - at which point the module internally detects the power failure and initiates an emergency closure of the valve. A list of compatible configurable valves is detailed in the Technical Specification of the user document.

Applications

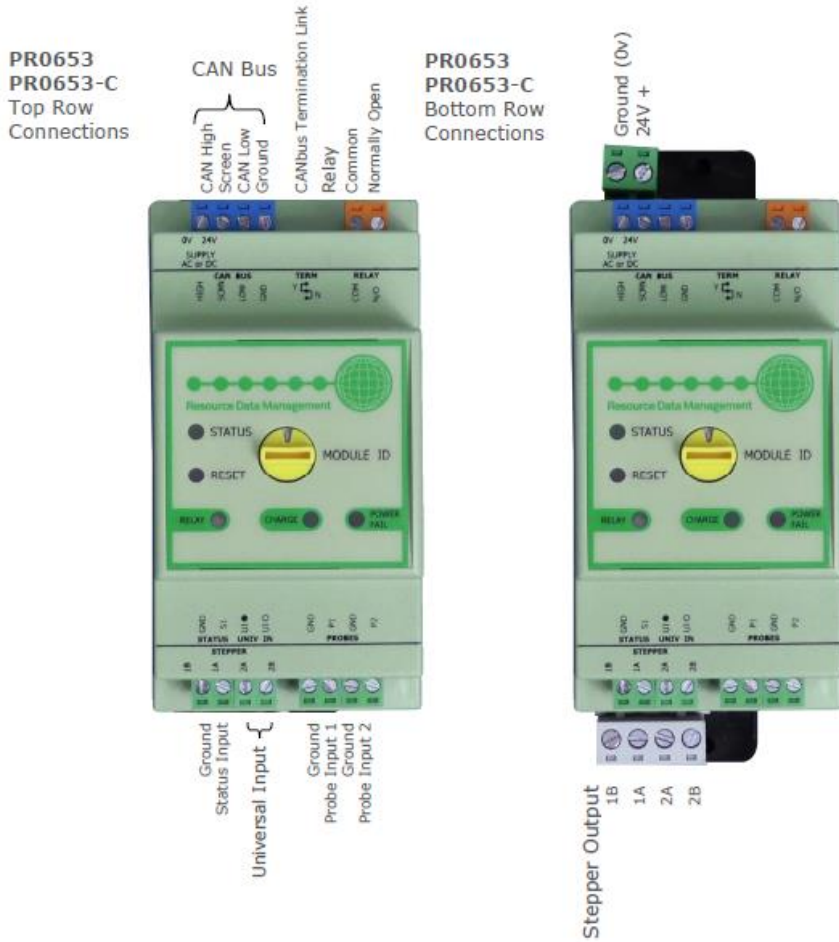
BEMS, HVAC, Energy Management, Refrigeration and general PLC requirements.

Hardware Features

There is no discernible hardware difference between the PR0653 and PR0653-C.

Expansion boards have a built-in CAN bus network interface that allows communication between a parent device such as an Intuitive, Mini Intuitive, TouchXL TDB, DMTouch or miniDM. For it to communicate successfully, the Module ID rotary switch must be set to the desired address on each expansion board. Please refer to the user document of the intended parent device with regards to mapping the Expansion boards.

Note: Both variants of the Stepper Module with Auto Close have Universal Analogue Inputs only. They cannot be used as Analogue Outputs.



Ordering Information

Description	Part Number
Intuitive Stepper Module with Auto Close – valve moves to average opening when CAN bus communication lost	PR0653
Intuitive Stepper Module with Auto Close – valve closed when CAN bus communication is lost	PR0653-C

Technical Product Specification

Power Requirements	
Supply Voltage Range	24VDC ±10% or 24VAC ±10%
Supply Frequency	DC or 50-60Hz ±10%
Maximum supply current	0.3A (Not Including Stepper Current) 1A (Running 8W Stepper Valve at 24VDC)
Typical supply current	<0.15A (Not Including Stepper Current)

General	
Operating temperature range	0°C to +50°C (32°F to +122°F)
Storage temperature range	0°C to +65°C (32°F to +149°F)
Environmental	Indoor use at altitudes up to 2000m, pollution degree 2, installation category II.
Size (H x W x D)	134 x 52.5 x 70 mm (5.2 x 2 x 2.8 in)
Approx. Weight	165g (0.36 lbs)
Safety	EN 61010-1:2010
EMC	EN 61326-1:2013 FCC CFR 47 Parts 15.107 & 15.109 ICES-003 Issue 6
Ventilation	There is no requirement for forced cooling ventilation
Class II Insulation	Class III. No protective Earth is required.
Supply Fuse	2A Anti Surge (T) HRC conforming to IEC60127
Or MCB	2A Type D conforming to BS EN 60898

Mechanical Relay	
Max Contact Current	3A (cos θ = 1) 2A (cos θ = 0.6)
Max Contact Voltage 250VAC, 30VDC	Max Contact Voltage 250VAC, 30VDC

Stepper Output	
Chopper current drive suitable for Bipolar (4-Wire) and Unipolar (6/8-Wire) stepper valves	
Max Valve Motor Power	8 W
Max Phase Current	580mArms / 825mA peak

Valve Closure Power Reserve	
Maximum Charge Time	450 seconds (7min 30 sec)
Typical Charge Time	380 seconds (6min 20sec)
<ul style="list-style-type: none"> Charge times apply to supercapacitors that have been completely discharged. A full valve closure is possible even if the module is not completely charged depending on the valve's energy usage. The relay output is controlled using TDB or CO2 Superpack under normal operating conditions. However, if a power fail is detected the relay is de-energised. This allows the relay to function as a power fail alarm by being set permanently on in TDB until a power fail overrides this and disables it. 	

LED Functions

Status	Flashing green when module is active.
Reset	Solid red when module is in reset.
Relay	Flash green when module is charging – pulse length proportional to charge level. Solid green when module is charged.
Power Fail	Flash red when power to the module has been interrupted.

Guaranteed Closure Valve List						
ALCO	EX4	EX5	EX6			
SPORLAN	SEI 0.5-11	SEI 30/50	SHE 100/175	SER 1.5-20	SER G/J/K	SER AA/A/B/C/D
DANFOSS	ETS 12.5-25B	ETS 50B	ETS 100B	ETS 250/400		
CAREL	E2/5/6V	E3/4/7V				
Note: guaranteed valve closure subject to configuration of valve parameters						

Certifications

