

Product Data Sheet

Pre-Start Purge

For purging Ex n and Ex e HV Electric Motors
in Zone 2, Class I Div 2 Prior to starting

4PP/SS/PA

6PP/SS/PA



FEATURES

- + Pre-Start Purging system for large and HV Electric Motors.
- + ATEX Category 3 certified for Zone 2 II operation.
- + Complies with UK Health and Safety Executive Safety notices.
- + Simple fitting and operation
- + Manual or Remote Start Purge

OVERVIEW

The Pre-Start Purge system is designed to enable purging of Ex e and Ex n or Non Incendive electric motors prior to starting. This is designed to ensure that the machine is gas free prior to starting when the risks of ignition may be greatest.

COMPONENTS

The equipment consists of two units, a Control Unit and Relief Valve. The Control Unit controls the compressed air supply to the machine, validates the purge flow and times the purge period. The Relief Valve provides a path for the purge air to exit the machine, and provides a means to verify that the required volume of air is flowing through the machine. The Relief Valve also incorporates a spark arrestor.

OPERATION

The system measures the flow through the machine, rather than the flow into the machine. This ensures effective purging by the method recognized in international standards EN50016, IEC 60079-2, and NFPA496. The system is intended for use in Zone 2 or Class I Division 2 hazardous locations.

The purging can be initiated either remotely or by local control. The system indicates purging in process and purge complete by means of volt free / dry contacts. Preset purge times of 10,15,20,25,30,35 or 45 minutes can be selected.

Remote Start Purge operation

The appropriate Remote Start control option must be selected and factory fitted to the Control Unit. For Remote Start operation, the system is initiated by means of a signal to the solenoid valve in the control unit. This will initiate a purge cycle. When the required purge flow level has been attained, a visual indicator and a volt free / dry contact will indicate purge in progress. The purging will continue for the pre determined purge time. At the end of the purge time the system will indicate purge complete by means of another visual indicator and volt free / dry contacts.

The remote purge initiation is controlled by solenoid valve, the preferred option is using a 24V dc signal to Ex n ATEX Category G3 solenoid valve. CSA/FM/UL Class I Division 2 or ATEX EEx d options are also available upon request.

Local Operation

Local operation of the Purge Start is by the use of a toggle switch located on the Control Unit, operate for 3 seconds and this will initiate a purge cycle.

Indication and controls

The system status is indicated locally by visual indicators on the control unit. The status is indicated remotely by volt free / dry contacts. These contacts are flameproof switches and therefore are suitable for connection in hazardous location to flameproof, increased safety, non-incendive or intrinsically safe monitoring circuits.

ATEX 

CE

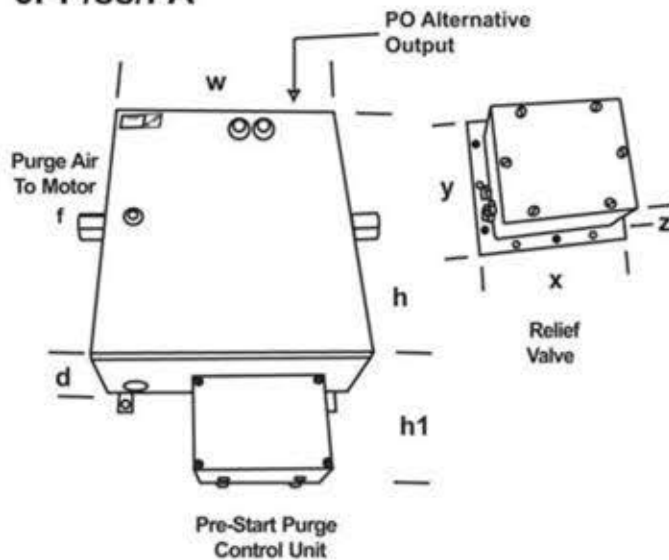
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Technical Specification

Pre-Start Purge

4PP/ss/PA

6PP/ss/PA



Dimensions/Spec.		4PP/SS/PA		6PP/SS/PA	
Width	w	14.2"	360mm	18.9"	480mm
Height	h	16.7"	425mm	16.7"	425mm
Height + SJB	h1	5.2"	132mm	7.3"	186mm
Depth	d	6.3"	160mm	7.1"	180mm
Fitting	f	3/4" NPT		1" NPT	
RLV Width	x	9.1"	230mm	13.0"	330mm
RLV Height	y	7.9"	200mm	11.0"	280mm
RLV Depth	z	5.1"	135mm	6.0"	156mm
Weight Control Unit		36.3lb	16.5kg	52.8lb	24.0kg
Weight RLV		8.8lb	4.0kg	15.4lb	7.0kg

Expo Technologies is the leading manufacturer of Purge and Pressurize equipment conforming to International Standards. The range includes systems for Small Electronic Enclosures, Large Electrical Cabinets, Analytical instruments and full Ex p of Large / HV Electric Machines. Expo Technologies also manufacture Intrinsically Safe, Increased Safety, Flameproof and Non Incendive equipment for hazardous areas. With full design, and consultancy facilities. Expo can undertake special projects and backs up its manufacture with qualified specialists who can undertake installation, maintenance and commissioning. Please contact one of our sales offices to discuss your hazardous location protection projects.

COMMON SPECIFICATION

Equipment sizes

There are two sizes of Control Unit and with matching Relief Valves as summarized in the Table below. The RLV is configured with user selectable orifice plates for the required flow rate.

Control Unit	Relief Valve	Flow Rate Range	
4PP/SS/PA	RLV52/SS/PP	700 NI/min	42 m ³ /hr
		1000 NI/min	60 m ³ /hr
		1500 NI/min	90 m ³ /hr
6PP/SS/PA	RLV104/SS/PP	2000 NI/min	120 m ³ /hr
		3000 NI/min	180 m ³ /hr
		4000 NI/min	240 m ³ /hr
		5000 NI/min	300 m ³ /hr
		6000 NI/min	360 m ³ /hr

OPTIONS

Remote Start Purge option must then be selected for factory fitting to the Control Unit.

- Remote Start EEx n 24V dc Category G D3 ATEX 24 V dc
- Remote Start EEx d II T4 Category 2 ATEX 24 V dc
- Remote Start Class I Division 2 CSA/ UL 24V dc

Air Inlet, Manual Isolation Valve option is also available.

/PO (Pneumatic Outputs) alternative to /PA

Both the 4PP/SS/PA and the 6PP/SS/PA include the /PO (Pneumatic Outputs) option, for those applications where EEx e or EEx i volt free / dry contacts are non-preferred options. These pneumatic outputs (1/8" NPT) can be piped to suitably approved / certified, Ex n, Non Incendive, Ex d, Explosionproof pressure switch. These pressure switches can be supplied by the manufacturer or Expo. Expo can also supply the Model: MIU/ dA dual approved / certified interface unit for connection to the /PO.

/PO (Pneumatic Output) & Indicators

"Purge in Progress" / "Yellow" 2 barg output (setting of pressure switch 1.5 barg)
 "Purge Complete" / "Green" 2 barg output (setting of pressure switch 1.5 barg)