



MVE Tech Tips



February, 2008

ChartConnect 3000 v1.1.1

A new version of ChartConnect 3000 is now available. This version features real-time temperature and level monitoring and a more user-friendly ASCII command interface. You can download the new version at www.chartbiomed.com/tec2000.cfm under "Communications". An accompanying user manual is also available under "Manuals".

Solenoid Valves

In October 2007, Chart changed solenoid valve suppliers from Alcon to SMC. The appearance of the valves has changed, but the functionality is the same. To order a replacement solenoid valve use PN 11884614. Below are specification sheets comparing the two valves.



Standard Specifications

Valve Specifications	Function	Normally closed
	Ambient Temperature	-20 to 60°C
	Body Material	Brass, Stainless steel
	Seal Material	PTFE
	Withstand Pressure	50 bar
	Valve Construction	Direct operated poppet
Coil Specifications	Rated Voltage	24V DC
	Voltage Tolerance	±10 %
	Coil Insulation	Class B

2 Way 68 Series**Application**

These valves are designed for controlling cryogenic medias such as liquid oxygen and liquid nitrogen down to temperatures of -196°C.

Features

Choice of pressure ratings and seat materials.
All valves degreased and free of moisture.

Technical Specification

Function:	Normally closed, energise to open.
Ambient Temperature:	-10°C to +60°C.
Materials:	Body: brass or bronze Internals: stainless steel, copper alloy.
Seals:	Standard: PTFE.
Coil Voltage:	12, 24V DC, 24, 110, 220, 230, 240V, AC 50/60Hz.
Voltage Tolerance:	±10%.
Duty Cycle:	100% continuously rated.
Protection Class:	IP65.
Electrical Connection:	Conduit Hub with 0.5mm Flying Leads.
Coil Insulation:	Class H.
Max Static Pressure:	50 bar.



Below is a short history of Chart's solenoid valves.

Non-cabinet freezer models

Introduction – June 1993	- Parker 24V AC
June 1993 – May 1995	- Alcon 24V AC
May 1993 – October 2003	- Alcon 24V DC in single valve config
October 2003 – April 2004	- Alcon 24V DC in dual valve config
April 2004 – August 2005	- SMC 24 V DC in dual valve config
August 2005 – October 2007	- Alcon 24V DC in dual valve config
October 2007 – Present	- SMC 24V DC in dual valve config

Freezer models MVE 600/611/616/616C/1400/1411/1426C

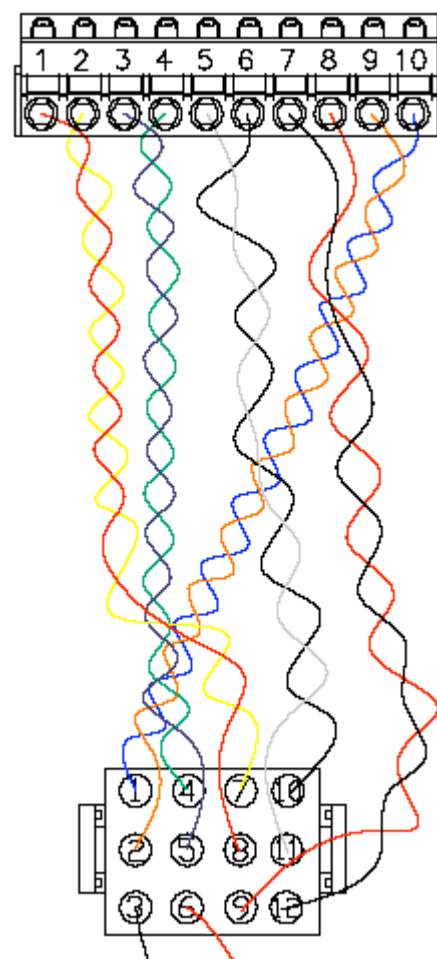
Introduction – June 2003	- Alcon 24V DC in single valve config
June 2003 – January 2005	- Alcon 24V DC in dual valve config
January 2005 – August 2005	- SMC 24V DC in dual valve config
August 2005 – October 2007	- Alcon 24V DC in dual valve config
October 2007 – Present	- SMC 24V DC in dual valve config

TEC 3000 Upgrade

When updating a freezer from a TEC 2000 controller to a TEC 3000 controller, ensure that the wire harness configuration is correct before powering up the controller. If the wire harness is incorrectly configured, it can damage the controller by overloading its internal circuitry.

The 10-pin inline Phoenix receptacle on the harness adapter that is included in the upgrade kit is designed to accept the existing 8-pin inline connector in addition to the 2-pin battery backup connector, if equipped with the battery backup option. The 8-pin inline connector should be plugged into pins 1-8 of the 10-pin inline receptacle, while the 2-pin battery backup connector should be plugged into pins 9 and 10 of the 10-pin inline receptacle. Ensure that polarity of the battery backup connector matches the polarity of the wire harness adapter. Pin 10 of the receptacle should be connected to the (+) battery backup pin and pin 9 of the receptacle should be connected to the (-) battery backup pin. The figure to the right shows how the provided harness adapter should be wired.

10 Pin Phoenix	Description
1	(-) Purge Valve
2	(+) Purge Valve
3	(-) Fill Valve
4	(+) Fill Valve
5	(-) Bypass Valve
6	(+) Bypass Valve
7	(-) Bypass Sensor
8	(+) Bypass Sensor
9	(-) Battery Backup
10	(+) Battery Backup



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