

XM600: MULTIPLEXED CASE CONTROLLERS WITH ADVANCED ALGORITHM FOR AUTO-ADAPTIVE SUPERHEAT CONTROL

Dixell improves the XM600 series for multiplexed cabinets with advanced algorithms, introducing the self adapting superheat control.

This useful function allows the plant to reach a high efficiency level with a considerable energy savings, thanks to the fine tuning automatically made by the controller.



1 NEW FEATURES



1.1 ADDITIONAL FUNCTIONS

The XM600 series is now even more complete thanks to these new important features:

- **AUTO-ADAPTIVE SUPERHEAT CONTROL:** it allows managing the valve in the best possible way by setting it to the real working conditions.
- **ADDITION OF THE R407F REFRIGERANT:** a new generation gas with low environmental impact.
- **BACK UP BATTERY MANAGEMENT:** in case of power failure, the controller can be connected to an external suitable sized battery with its own battery charger circuit to close the valve. Until now the only battery tested and approved is the Alco ECP-024. Any other batteries must be tested and approved by Dixell before using it.
- **NTC-US PROBE MANAGEMENT:** ideal for the American and Far East markets. This probe is compatible with CPC controllers.
- **HOT GAS DEFROST:** very useful for bi-directional stepper valves (XM668D and XM678D).

1.2 RELEASE UPDATE


The release of the XM600 controllers has been changed in order to differentiate the old version to the new one with auto-adaptive superheat control:

	OLD VERSION		NEW VERSION
XM668D - XM678D STEPPER VALVE	Rel. 2.1		Rel. 2.5
XM669K - XM679K ON/OFF VALVE	Rel. 1.3 and 1.4		Rel. 3.4

1.3 LABEL and PRODUCT CODE UPDATE

The last two numbers of the product code have been changed from “00” to “10”, as shown in the example below:

SALES CODE	PRODUCT CODE	NEW PRODUCT CODE
XM679K -5P1C0	MGIIDID5 00	MGIIDID5 10
XM678D -2N0C2	MFHJDOD2 00	MFHJDOD2 10

 Made in ITALY	XM679K -5P1C0-	T 0÷60 °C Power 9VA Max R.H. 20÷85% Probe Pt1000	CE
	MGIIDID510	000#00/0000	V.3.4

2 MAIN FUNCTIONS

2.1 AUTO-ADAPTIVE SUPERHEAT CONTROL

In the new XM600 series, the superheat can be managed in two modes:

- MANUALLY**, with a **Proportional Integrative** control;
- AUTOMATICALLY**, with the **Auto-adaptive** control.

The **manual control** implies to set the parameters related to the PI (Proportional Integrative) control, such as: proportional band, band offset, integration time and fast-recovery constant. This solution is suggested when the user has high level experience in the regulation and when the working conditions are quite stable.

The **auto-adaptive control** makes easier the superheat regulation, allowing also the user not well skilled to set up the superheat control.

This advanced solution makes available functions previous reserved to well trained personnel; indeed the user has to enable the automatic superheat control and the automatic search of the minimum stable superheat.

The algorithm continually seeks conditions of low and stable superheating in order to increase the surface used by the evaporator, the heat exchange and the plant efficiency to save energy.

Furthermore the algorithm adapts the PI regulation to the real conditions, optimizing continuously the values of the internal parameters according to the system behaviour.

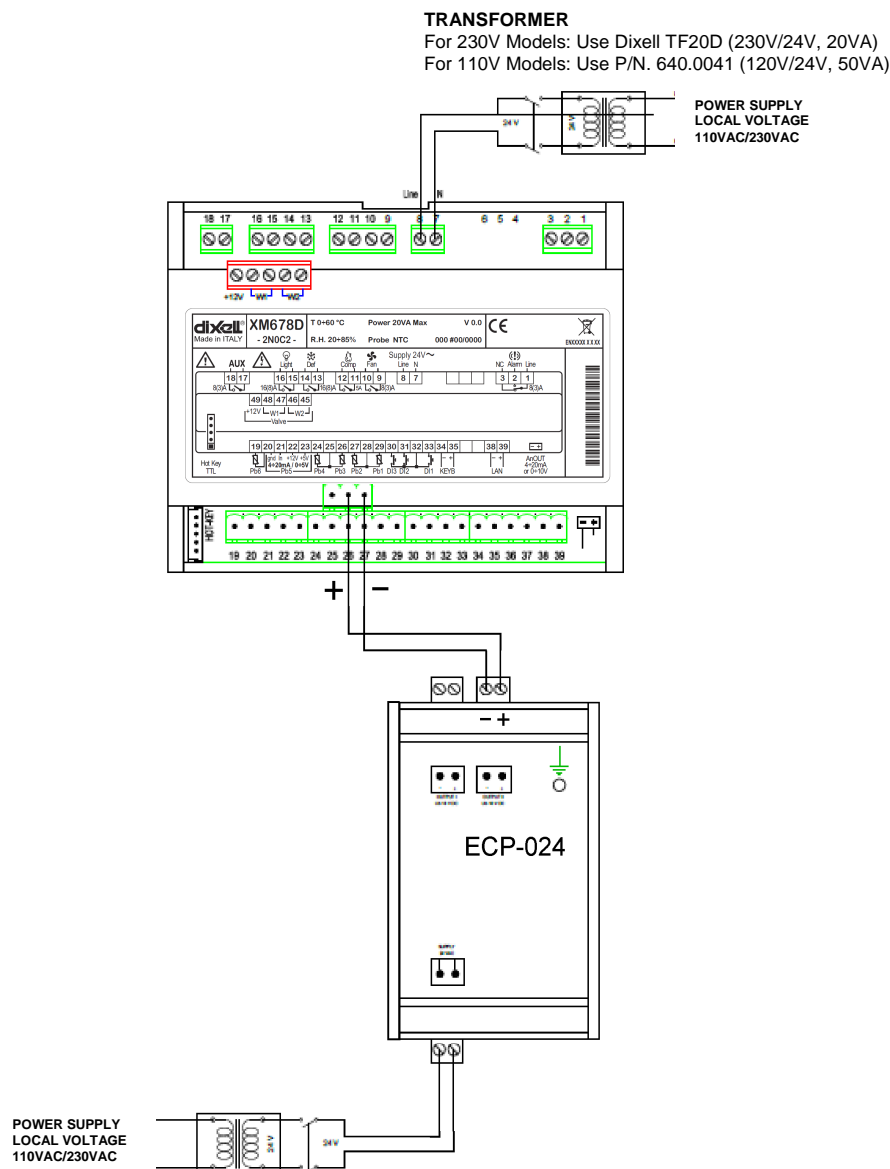
2.2 CONNECTION for BATTERY BACK UP (XM668D and XM678D)

Stepper valves need an external device that closes the valve in case of power failure. Usually this operation is performed by a solenoid valve combined with a stepper valve.

An alternative solution is to connect the controller of the stepper valve to a power source, such as a rechargeable battery or condensers that supply the controller in order to close the valve. This important function is present on XM668D and XM678D models.

The battery back up has to be supplied with its own transformer that is independent from the one of the XM600D controller.

Here below an example of a connection with the Alco ECP-024:



3 PRICES

Contact our sales department for prices.

4 AVAILABILITY and ORDERS

The standard model of XM600 series will be available from January 2014 with standard delivery time, whereas orders of custom models have to be agreed with the sales area manager.