

XV300K: new series of MASTER and SLAVE three-phase fan speed regulators with ModBUS communication

Dixell extends the range of the three-phase fan speed controllers, introducing the MASTER family and updating the SLAVE series. All models are compatibles with XWEB monitoring systems thanks to the introduction of the ModBUS protocol.



The family of three-phase fan speed regulators, working in cut-phase mode, is now more complete with the introduction of MASTER modules. These controllers have the same power and dimensions of the SLAVE models but doesn't need external regulator. The useful frontal display with keyboard allows the user to display and modify the functioning parameters. Any MASTER module can use a pressure probe (ratiometric or current) or a temperature probe (NTC) for the regulation in order to

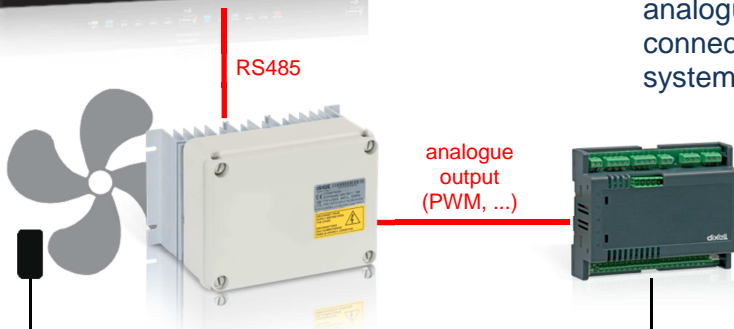
cover the majority of the applications present in the market.

In order to satisfy the market needs, the SLAVE series as well has been completely renewed with the introduction of 2 more powerful models. A better regulation algorithm has been introduced in order to optimize the functioning in low temperature conditions.

All MASTER and SLAVE modules guarantee the compatibility with any Dixell controllers equipped with adjustable voltage, current and PWM outputs like the XM600, iChill, iPro series, and more. Moreover, they can support monitoring systems via serial line and ModBUS protocol, with the possibility of being connected and recognized by Dixell monitoring systems of the XWEB series.

Thanks to the introduction of new functions, the XV300K controllers offer different kind of connection.

The most common are listed here below.



SLAVE models are regulated by Dixell controllers through the analogue output and they are connected via RS485 with XWEB systems.

MASTER models work without using external regulators and they are connected via RS485 with XWEB systems.



1 XV300K MASTER

1.1 MAIN FEATURES

MASTER modules are designed to work in stand-alone mode by using an external sensor (a current or voltage pressure probe or a NTC temperature probe). Furthermore the regulation setting can be changed thanks to the configuration parameters. Controllers are available only with plastic housing that ensures an IP55 protection.

The following chart shows the available MASTER models and their power, current and IP protection features.

MASTER Model	Max. Power (kVA)	Nominal Current (A) RMS	Power Dissip. (W)	Power Cables (mm ²)	Line Fuses (A)	Extrarapid fuses (A)	IP
XV308K	5,5	8	30	1,5	10	16	IP55
XV312K	8	12	60	2,5	16	25	IP55
XV320K	13	20	80	2,5/4	25	32	IP55
XV328K	19	28	120	6	35	50	IP55
XV340K	26	40	155	10	50	63	IP55
XV350K	32	50	180	16	63	80	IP55
XV360K	41	60	250	16/25	80	100	IP55

1.2 DISPLAY and KEYBOARD

Regulators are equipped with keyboard and LCD display to enter and modify in a simple and fast way the configuration data of the instrument. In case of installation in very cold environment (temperature lower than -10°C) it is possible to order the OLED display for a better readable version.

1.3 POWER SUPPLY

The power supply (referred to line to line voltage) is 230 or 400VAC and can be selected through an internal jumper wire. This operation must be done only when the power supply is disconnected and only by qualified staff.

1.4 REAL TIME CLOCK

The real time clock can be ordered as an option. Thanks to this function the user can define the night mode functioning, particularly appreciated in case of installation in high population density areas and for energy saving.

1.5 I/O

The XV300K MASTER family is equipped with inputs and outputs as follows:

- 1 analogue input for regulation probe, that can be both pressure (4-20mA or 0-5V) or temperature (NTC 10K);
- 4 digital inputs to manage the external alarm and the remote activation, to limit maximum speed or to modify the functioning according two pre-loaded profiles (i.e. changing the regulation from direct to reverse and vice-versa);
- 1 digital output (relay).

1.6 RELAY

All models are equipped with one internal relay (5A) which can be configured in the following modes.

1.6.1 ALARM SIGNAL

In this case the relay is activated during normal operating mode and deactivated during the following alarm conditions:

- Wrong power supply;
- Phase loss;
- Digital input alarm;
- High temperature alarm;
- Regulation probe failure.

1.6.2 ACTIVATION AND DEACTIVATION WITH THRESHOLD

The relay is activated above the **LIM.MAX.RELE_1** threshold and is deactivated under the **LIM.MIN.RELE_1** threshold.

1.6.3 ACTIVATION WITH RTC

The relay is activated during the preset intervals depending on the clock configuration.

1.7 SERIAL COMMUNICATION

All MASTER models are equipped with a 2-wire serial port with ModBUS protocol and are compatible with all monitoring and supervisor systems of the XWEB series.

1.8 LANGUAGES

By entering the configuration menu, it is possible to choose among these languages: English, Italian, French, Spanish and Russian (**the last one is available only with OLED display option**).

2 XV300K SLAVE

2.1 MAIN FEATURES

The range of SLAVE models is now increased (with the addition of the XV350K and XV360K models) and is completely renewed thanks to the introduction of new software functions and new hardware features. Besides of standard analogue signals (current, voltage or PWM) now it's possible to control also the fan speed via ModBUS (with a dedicated command). The regulation is improved to ensure stability also at very low functioning temperature (lower than -10°C). Controllers are available with plastic enclosure that ensures an IP55 protection and, on request and only for some models, in metallic version with IP20 protection.

The following chart shows the available SLAVE models and their power, current and IP protection features.



XV300K IP20 with metallic enclosure

SLAVE Model	Max. Power (kVA)	Nominal Current (A) RMS	Power Dissip. (W)	Power Cables (mm ²)	Line Fuses (A)	Extrarapid fuses (A)	IP
XV308K	5,5	8	30	1,5	10	16	IP55
XV310K	6,5	10	40	1,5	16	16	IP20
XV312K	8	12	60	2,5	16	25	IP55
XV316K	11	16	70	2,5	20	25	IP20
XV320K	13	20	80	2,5/4	25	32	IP20 IP55
XV328K	19	28	120	6	35	50	IP20 IP55
XV340K	26	40	155	10	50	63	IP20 IP55
XV350K	32	50	180	16	63	80	IP55
XV360K	41	60	250	16/25	80	100	IP55

2.2 POWER SUPPLY

The power supply (referred to line to line voltage) is 400VAC.

2.3 I/O

XV300K SLAVE series is equipped with 1 input and 1 output as follows:

- 1 analogue input for regulation, that can be a 4÷20mA, 0÷5V or PWM signal;
- 1 digital output (relay) used to signal the following problems of the regulator:
 - Phase loss;
 - High temperature alarm;
 - Regulation input signal failure.

2.4 SERIAL COMMUNICATION

All SLAVE models are equipped with serial port with ModBUS protocol and are compatible with all monitoring and supervisor systems of the XWEB series.

2.5 COMPATIBILITY with PREVIOUS VERSIONS

New SLAVE controllers are fully compatible with previous versions. All Dixell regulators equipped with adjustable voltage, current or PWM outputs can be used to control these new models. It is assured the complete interchangeability between the new XV300K SLAVE series and the actual one. New models will replace the previous ones which won't be available starting from April 2014.

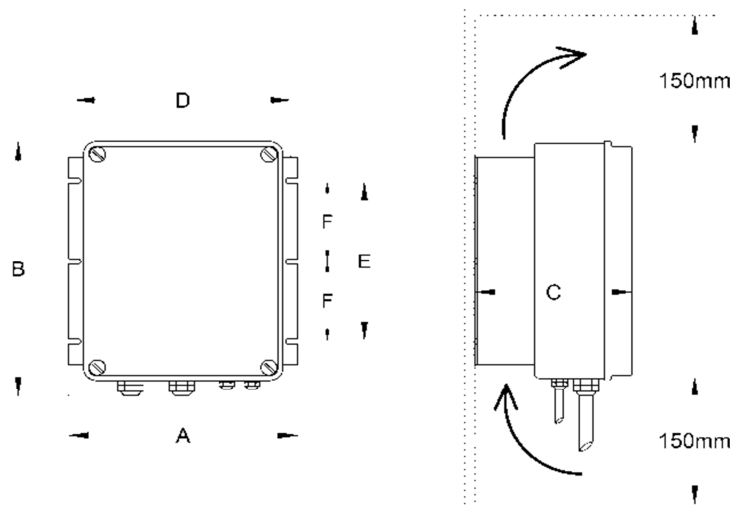


3 DIMENSIONS

Depending on the model, the XV300K controllers have different dimensions. The following chart contains weights, dimensions and fixing modes.

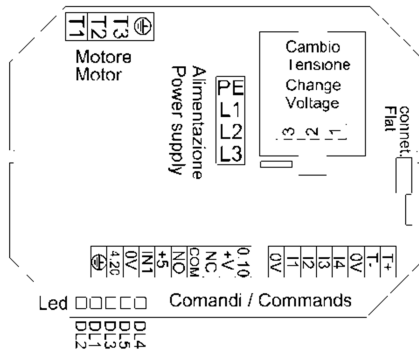
Model	Weights (kg)	Dimensions (mm)			Fixed screws (mm)			
		A	B	C	D	E	F	Ø
XV308K - master/slave	2,5	230	165	150	215	80	/	M4
XV310K - slave	2,5	230	165	150	215	80	/	M4
XV312K - master/slave	4	230	265	165	215	170	/	M4
XV316K - slave	4	230	265	165	215	170	/	M4
XV320K - master/slave	4,8	230	265	230	215	170	/	M4
XV328K - master/slave	7	340	270	235	322	165	/	M5
XV340K - master/slave	9	340	270	235	322	165	/	M5
XV350K - master/slave	17	340	440	235	322	340	170	M5
XV360K - master/slave	18	340	440	235	322	340	170	M5

The XV300K regulator must be wall-mounted vertically, in order to guarantee adequate heating dispersion. Pay attention to prevent obstructions of the air flow near the heat sink zone.

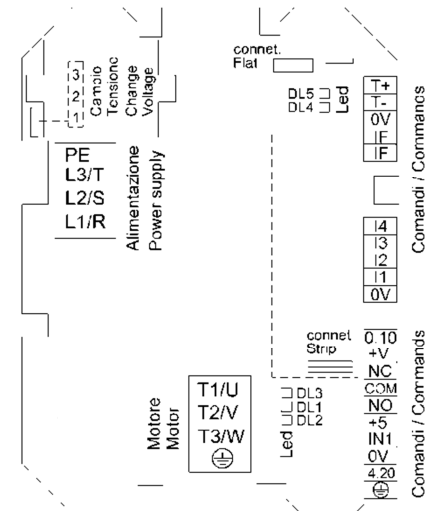


4 WIRING DIAGRAMS

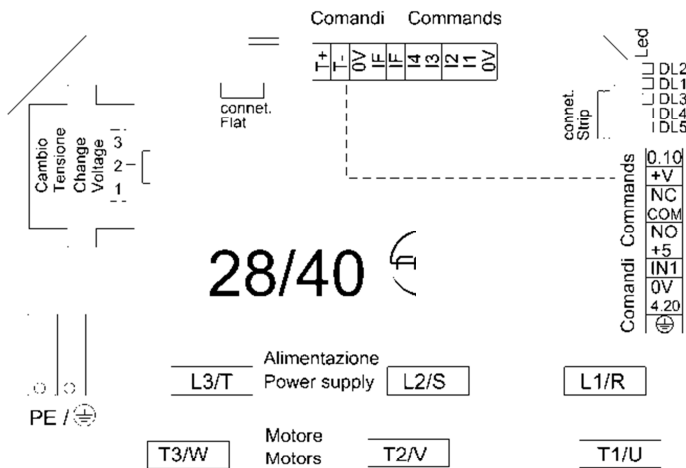
XV308/310K



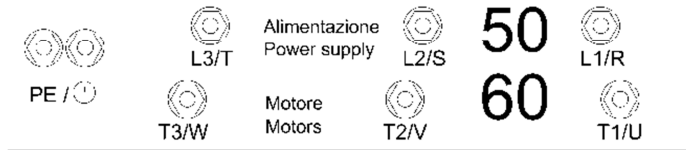
XV312/316/320K



XV328/340/350/360K



NOTE: terminals 11, 12, 13, 14 are present only for MASTER versions



5 HOW to ORDER

XV300K MASTER: XV3__K – 6 1 1 **DE**

XV300K SLAVE: XV3__K – 7 0 **C 2 0**

C		D		E	
IP protection		RTC		Display	
0	IP20	1	YES	1	LCD
1	IP55	2	NO	2	OLED

6 PRICES

Contact our sales department for prices.

7 AVAILABILITY and ORDERS

All XV300K models are available with standard delivery time.