

# DMP-FTV

Automatic Power Factor Correction equipment



**DMP-FTV series equipment are particularly suitable for three-phase networks with operating voltage equal to 400 Vac (+/- 10%) with medium-high harmonic distortion in current. These equipment guarantee an accurate P.F.C., thanks to a multi-step design that effectively divides the power. In addition, on the G6E and G8E cabinet, all the capacitors banks are assembled on racks, easily removable from the front of the panel, for simple management and maintenance.**

## TECHNICAL DATA

<b>Enclosures</b>	Made of sheet steel, protected against corrosion by phosphating and epoxy powder coating. RAL 7032 colour (others on request). Degree of protection: external panel IP 31, with the exception of type G3E and G4E with IP30 (others on request); internal panel IP 20 at the input of power cables (IP 20 with open doors on request).
<b>Installation</b>	Indoor installation, in a well ventilated position away from heat sources.
<b>Ventilation</b>	Natural for powers up to 200 kvar; Forced for powers over 200 kvar.
<b>Switch isolator</b>	Tri-polar under-load type with door lock.
<b>Wiring</b>	The internal connection cables are FS17-450 / 750V type, flame retardant and with very low fumes emission (other types of cables on request). On the non-pre-insulated terminals the connection point is covered with a long-life heat-shrinking sheath. The auxiliary voltage are appropriately identified in compliance with current regulations.
<b>3-pole contactors</b>	Each battery is switched on / off by a three-pole contactor (Class AC6-b) to offer high reliability. The limitation of current peaks caused by the insertion of the capacitive batteries is guaranteed by pre-charging resistors.
<b>Fuses</b>	Each capacitors bank is protected by fuses. The protection system of both the power circuits (NH-00 curve gG fuses) and the auxiliary ones (isolable fuse holders and 10.3x38 fuses) foresees the use of high breaking power fuses (100kA).
<b>Capacitors</b>	Single-phase capacitors in self-healing metallized polypropylene (MKP), equipped with an anti-burst device and discharge resistance. They are impregnated in vegetable oil, PCB free. Delta connection. Type of continuous service. <ul style="list-style-type: none"><li>• rated voltage: 600 Vac (maximum voltage 660 Vac)</li><li>• overvoltage: 1.1 x A (8h / 24h)</li><li>• current overload: 1.3 x In</li><li>• capacity tolerance: -5% / + 10%</li><li>• losses due to dissipation: ≤0.4 W / kvar</li><li>• temperature category: -25 / D</li></ul>
<b>Controller</b>	<ul style="list-style-type: none"><li>• type of measurement: varmetric.</li><li>• amperometric signal: by means of an amperometric transformer with secondary 5A, class 1 - 5VA (by the user)</li><li>• amperometric signal sensitivity: 2.5% for BMR series, 0.3% for HPR series</li><li>• standard capacitors on / off times: 25 "÷ 30" (others on request)</li></ul>

## QUALITY AND TESTING

<b>Regulations</b>	Capacitors: IEC/EN 60831-1 / 2 certified by IMQ (V1927); Equipment: IEC/EN 61439-1 / 2, IEC/EN 61921.
<b>European directives</b>	Low voltage: 2014/35/CE; Electromagnetic compatibility: 2014/30/CE.
<b>Testing</b>	100% of the automatic equipment is subject to visual inspection, insulation test: phase-phase and phase-earth, battery efficiency and ventilation circuit control: the report is included in the documentation. The capacitors are tested in three consecutive stages of the production process: after winding, regeneration and before labeling.

## PERFORMANCE DATA

■ Rated voltage	415 Vac (others on request)
■ Rated frequency	50 Hz (60 Hz on request)
■ Insulation voltage	690 Vac
■ auxiliary voltage	400 Vac for G3E, G4E, G4RM <sup>1</sup> 230 Vac for G4RM <sup>2</sup> , G6E, G8E
■ Overvoltage	1,1 Un (rated voltage)
■ Temperature range	-5 / +40 °C
■ Impulse withstand	6 kV (G3E, G4E); 8 kV (G4RM, G6E, G8E)

<sup>1</sup>up to 200 kvar. <sup>2</sup>over 200 kvar. Auxiliary voltage is supplied by a proper transformer.

## HARMONIC CONTENT (in the absence of resonance)

THD(I)max. = 40%	on the network
THD(Ic)max. = 90%	on the capacitors


### CONFIGURATION

#### General notes

- For dimensions, please consult the cabinet drawings, referring to the "Type" column.
- The indication for cable entry (power supply) is as follows: ↑ from the bottom, ✓ side up, ↓ from the top
- The rated power is expressed at 415 V - 50 Hz.

The choice of supply cables depends on the installation conditions, the length of the same and the ambient temperature. For a correct sizing, refer to the IEC 60364-5, CEI 64-8 and the UNEL 35024/01 standards.

#### Cloud Control System (CCS)











The symbol  indicates that CCS, the remote monitoring system, is pre-installed on the P.F.C. equipment. For any specific information, and to find out the advantages of the Cloud Control System service, refer to the appropriate brochure available on [www.comarcond.com](http://www.comarcond.com) or directly on request.



Table

THD(I)max. = 40%

THD(Ic)max. = 90%

Code	Type	Qn (kvar)	Cable entry	In (A)	Banks size (kvar)					Steps (n)	Switch isolator (A)	Controller (tipo)	CCS	Weight (kg)			
8881412250500	G3E	25	✓	35	6.25	6.25	12.5			4	80	BMR6		15			
8881412310500	G3E	31,25	✓	43	6.25	12.5	12.5			5	80	BMR6		18			
8881412435500	G3E	43,75	✓	61	6.25	12.5	25.0			7	125	BMR6		22			
8881412500500	G3E	50	✓	70	12.5	12.5	25.0			4	125	BMR6		23			
8881412625500	G3E	62,5	✓	87	12.5	25.0	25.0			5	125	BMR6		26			
8881412750500	G4E	75	✓	104	12.5	12.5	25	25		6	160	BMR6		38			
8881413100500	G4E	100	✓	139	12.5	12.5	25	50		8	200	BMR6		46			
8881413125500	G4RM	125	✓	174	12.5	12.5	50	50		5	250	BMR6		83			
8881413150500	G4RM	150	✓	209	25	25	50	50		6	315	BMR6		84			
8881413175500	G4RM	175	✓	243	25	50	50	50		7	400	BMR6		87			
8881413200500	G4RM	200	✓	278	25	25	50	100		8	400	BMR6		89			
8881413225500	G4RM	225	✓	313	25	50	50	100		9	500	BMR6		95			
8881413250500	G4RM	250	✓	348	25	50	75	100		10	500	BMR6		102			
8881413300450	G6E	300	↓	417	25	50	75	75	75	12	630	HPR6		175			
8881413350450	G6E	350	↓	487	50	75	75	75	75	7	800	HPR6		192			
8881413400450	G6E	400	↓	556	50	50	75	75	75	75	8	800	HPR6		207		
8881413450450	G6E	450	↓	626	50	50	50	75	75	150	9	1000	HPR6		240		
8881413500450	G6E	500	↓	696	50	75	75	75	75	150	10	1000	HPR6		255		
8881413600500	G8E	600	↑	836	75	75	75	75	75	75	75	8	1250	HPR12		330	
8881413650500	G8E	650	↑	904	50	75	75	75	75	75	150	11	1250	HPR12		345	
8881413750500	G8E	750	↑	1045	75	75	75	75	75	150	150	10	1600	HPR12		380	
8881413825500	G8E (II)	825	↑	1149	75	75	75	75	75	150	150	150	11	800+1000	HPR12		510
8881413900500	G8E (II)	900	↑	1254	75	75	75	75	150	150	150	150	12	1000+1000	HPR12		530

Other solutions are available on request.