B35

Automatic Power Factor Correction equipment

B35 series equipment are particularly suitable for three-phase networks with operating voltage equal to **400 Vac** (+/- 10%) with **low-medium 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.

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 forG3E, G4E, G4RM[1] 230 Vac for G4RM[2] , G6E, G8E
Overvoltage	1,1 Un (rated voltage)
Temperature range	-5 / +40 °C
Impulse withstand	6 kV (G3E, G4E); 8 kV (G4RM, G6E, G8E)

[1]up to 200 kvar. [2]over 200 kvar. Auxiliary voltage is supplied by a proper transformer.

HARMONIC CONTENT (in the absence of resonance)

THD(I)max. = 25%	on the network
THD(Ic)max. = 70%	on the capacitors

TECHNICAL DATA

Enclosures	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).
Installation	Indoor installation, in a well ventilated position away from heat sources.
Ventilation	Natural for powers up to 200 kvar; Forced for powers over 200 kvar.
Switch isolator	Tri-polar under-load type with door lock.
Wiring	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.
3-pole contactors	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.
Fuses	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).
Capacitors	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. • rated voltage: 440 Vac (maximum voltage 500 Vac) • overvoltage: 1.1 x A (8h / 24h) • current overload: 1.3 x In • capacity tolerance: -5% / + 10% • losses due to dissipation: ≤0.4 W / kvar • temperature category: -25 / D
Controller	• type of measurement: varmetric. • amperometric signal: by means of an amperometric transformer with secondary 5A, class 1 - 5VA (by the user) • amperometric signal sensitivity: 2.5% for BMR series, 0.3% for HPR series • standard capacitors on / off times: 25 "÷ 30" (others on request)

QUALITY AND TESTING

Regulations	Capacitors: IEC/EN 60831-1 / 2 certified by IMQ (V1927); Equipment: IEC/EN 61439-1 / 2, IEC/EN 61921.
European directives	Low voltage: 2014/35/CE; Electromagnetic compatibility: 2014/30/CE.
Testing	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.

CONFIGURATION

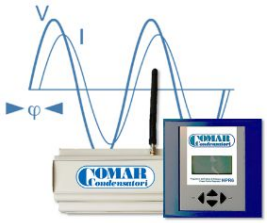
General notes

- 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 or directly on request.



Table

THD(I)max. = 25% THD(Ic)max. = 70%

Code	Type	Qn	Cable entry	In	Banks size									Steps	Switch isolator	Controller	CCS	Weight
		(kvar)		(A)	(kvar)									(n)	(A)	(type)		(kg)
8671412102340	G3E	10,2	↙	14	3,4	3,4	3,4							3	40	BMR4		14
8671412159340	G3E	15,9	↙	22	3,4	6,25	6,25							5	40	BMR4		15
8671412221340	G3E	22,15	↙	31	3,4	6,25	12,5							7	80	BMR4		16
8671412310340	G3E	31,25	↙	43	6,25	12,5	12,5							5	80	BMR4		18
8671412435340	G3E	43,75	↙	61	6,25	12,5	25							7	125	BMR4		22
8671412500340	G3E	50	↙	70	12,5	12,5	25							4	125	BMR4		23
8671412625340	G3E	62,5	↙	87	12,5	25	25							5	125	BMR4		26
8671412750340	G4E	75	↙	104	12,5	12,5	25	25						6	160	BMR4		38
8671413100340	G4E	100	↙	139	12,5	12,5	25	50						8	200	BMR4		43
8671413125345	G4RM	125	↙	174	25	50	50							5	250	BMR4		80
8671413150345	G4RM	150	↙	209	25	25	50	50						6	315	BMR4		85
8671413175345	G4RM	175	↙	243	25	50	50	50						7	400	BMR4		87
8671413200345	G4RM	200	↙	278	25	25	50	100						8	400	BMR4		89
8671413225345	G4RM	225	↙	313	25	50	50	100						9	500	BMR4		95
8671413250345	G4RM	250	↙	348	25	50	75	100						10	500	BMR4		102
8671413300355	G6E	300	↓	417	25	50	75	75	75					12	630	HPR6	((•))	175
8671413350355	G6E	350	↓	487	50	75	75	75	75					9	800	HPR6	((•))	192
8671413400355	G6E	400	↓	556	50	50	75	75	75	75				14	800	HPR6	((•))	207
8671413450355	G6E	450	↓	626	50	50	50	75	75	150				16	1000	HPR6	((•))	240
8671413500355	G6E	500	↓	696	50	75	75	75	75	150				13	1000	HPR6	((•))	255
8671413525440	G8E	525	↑	731	75	75	75	75	75	75	75			7	1250	HPR12	((•))	315
8671413600440	G8E	600	↑	836	75	75	75	75	75	75	75	75		8	1250	HPR12	((•))	330
8671413675440	G8E	675	↑	940	75	75	75	75	75	75	75	150		9	1250	HPR12	((•))	350
8671413750440	G8E	750	↑	1045	75	75	75	75	75	75	150	150		10	1600	HPR12	((•))	380
8671413825440	G8E (II)	825	↑	1149	75	75	75	75	75	150	150	150		11	800+1000	HPR12	((•))	510
8671413900440	G8E (II)	900	↑	1254	75	75	75	75	150	150	150	150		12	1000+1000	HPR12	((•))	530
8671413975440	G8E (II)	975	↑	1358	75	75	75	150	150	150	150	150		13	1000+1000	HPR12	((•))	550
8671414105440	G8E (II)	1050	↑	1462	75	75	150	150	150	150	150	150		14	1000+1000	HPR12	((•))	650
8671414120440	G8E (II)	1200	↑	1671	75	75	150	150	150	150	150	300		16	1250+1250	HPR12	((•))	690
8671414135440	G8E (II)	1350	↑	1880	75	75	150	150	150	150	300	300		18	1250+1250	HPR12	((•))	730

Other solutions are available on request.