



WMS...



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HFRA...



EXP1011



EXP1015 + CX03

**WMS series - Wall mount power factor systems (automatic) 400/440V**

For applications with varying capacitor requirements. An automatic reactive controller monitors the network and only switches capacitor banks when required, avoiding potential over or under compensation in a network.

**WMS series wall mount power factor systems (37 - 150 kvar - 400V)**

**Complete ready-to-install system comprising following**

- Reverse-flow fan ventilated wall mount enclosure, bottom cable entry (*top entry on request*)
- Mains isolator, door interlocking (*with early make / late break auxiliary*)
- Heavy duty three phase capacitors (with internal discharge resistors)
- Reactive control relay **DCRL 5** (digital display of all important electrical network parameters)
- "Special" capacitor switching contactors incorporating limiting resistors
- HRC fuse protection (*per capacitor bank*)

type	kvar at:		steps (kvar) at 415V			Expands to (kvar)	dimensions (mm)		
	415V	440V	12.5	25	50		(H)	(W)	(D)

**WM series - Wall mount complete power factor systems (440V capacitors)**

WMS03704	37.5	45	1	1	–	87.5	700	600	300
WMS05004	50	60	2	1	–	87.5	700	600	300
WMS06204	62.5	75	1	2	–	87.5	700	600	300
WMS07504	75	90	2	2	–	87.5	700	600	300
WMS08704	87.5	105	1	3	–	–	700	600	300
WMS10004	100	120	2	1	1	150	700	900	300
WMS11204	112.5	135	1	2	1	150	700	900	300
WMS12504	125	150	2	2	1	150	700	900	300
WMS13704	137.5	165	1	1	2	150	700	900	300
WMS15004	150	180	–	2	2	–	700	900	300

**De-tuned anti-harmonic reactors 400V, 50Hz**

De-tuned reactors protect capacitors against harmonics, avoiding parallel resonance and amplification of harmonics flowing within the network.

- Insulation: F class insulation, 155°C
- Internal protection: Thermal cutout (125°C) incorporated (*on centre phase*)
- Reference standards: IEC/EN 60076-6, 61558-2-20

type	kvar at:		%	description	dimensions (mm)		
	400V	440V			(H)	(W)	(D)

**7% - 189 Hz De-tuned reactors**

*for networks with 5th and 7th Harmonics*

HFRA1207	12.5	15	7%	anti-harmonic reactors	215	210	120
HFRA2507	25	30	7%	anti-harmonic reactors	190	240	170
HFRA5007	50	60	7%	anti-harmonic reactors	240	300	180

**14% - 134 Hz De-tuned reactors**

*for networks with a high levels of 3rd Harmonics*

HFRA1314	13.5	16	14%	anti-harmonic reactors	280	240	150
HFRA2714	27	32	14%	anti-harmonic reactors	250	330	220
HFRA5414	54	64	14%	anti-harmonic reactors	270	340	220

**Remote monitoring of FM series systems**

For remote monitoring and control of all electrical network parameters including harmonics, panel internal temperature, alarms, events and all setup parameters.

Communication modules simply plug-in to the controller and are automatically configured to offer various communication protocols.

EXP1011	opto-isolated	RS232 plug-in communication	expansion module
EXP1012	opto-isolated	RS485 plug-in communication	expansion module
EXP1013	opto-isolated	ETHERNET with web server function	expansion module
EXP1014	opto-isolated	Profibus-DP plug-in communication	expansion module

Plug-in GPRS/GSM modem automatically configures to the controller when mounted and once a data-enabled SIM card is installed the controller can send alarm or event SMS's or e-mails.

EXP1015	plug-in GPRS/GSM Modem for remote monitoring	expansion module
CX03	GSM/GPRS penta-band antenna (850/900/1800/1900/2100MHz)	for above