

ERM

Rectifier modules for EPOS Modular



GENERAL DESCRIPTION

The ERM rectifier modules are designed and optimised for demanding telecom and industry applications.

The convection cooled ERM rectifier series are building blocks of the EPOS Modular power systems. The rectifier provides 1200W to 1600W output power at 48 VDC or 60 VDC, with a single phase, semi-wide input voltage range.

The rectifiers may be operated either with a system controller or as stand-alone modules, with or without parallel-connected batteries.

FEATURES

- Convection cooled
- 48 VDC and 60 VDC output
- 1200W to 1600W output power
- Selectable constant current or constant power mode
- Nominal 230 VAC input, range 140-300 VAC
- EN 55022 class B
- Active load current share
- Internal overtemperature protection
- Flexible design with full front cabling

SPECIFICATIONS

Electrical and Signals

Input	ERM 48-1600	ERM 48-1200	ERM 60-1200
Input range, full specification	180 VAC – 275 VAC	195 VAC – 275 VAC	195 VAC – 275 VAC
Low input voltage, start	180 VAC	195 VAC	195 VAC
Low input voltage, shut off		140 VAC	
High input voltage, shut off		310 VAC	
High input voltage, start		300 VAC	
Input Frequency (min)		45 Hz	
Input Frequency (max)		65 Hz	
Input current (max)	9.9 A @ 180 VAC	6.8 A @ 180 VAC	6.8 A @ 180 VAC
Power factor (typical @ 230 VAC, full load)	0.98	0.97	0.97
Internal input fuse	20AT	10AT	10AT
Output	ERM 48-1600	ERM 48-1200	ERM 60-1200
Output voltage (min/nominal/max)	42 / 48 / 59 VDC	42 / 48 / 58 VDC	52.5 / 60 / 72.5 VDC
Output current (min/max)	0 / 38 A	0 / 28.6 A	0 / 22.9 A
Output voltage setpoint range Float Charge mode, "FC" (min/def/max)	49 / 54.5 / 57 VDC	49 / 54.5 / 57 VDC	61 / 68.1 / 70 VDC
Output voltage setpoint range Support Level mode, "SL" (min/def/max)	42 / 44 / 59 VDC	42 / 44 / 58 VDC	53 / 55 / 72 VDC
Output power characteristic	Constant Current or Constant Power (dip-switch setting on unit front)		
Constant power mode; Output power limit @ min voltage	1600 W @ 42VDC	1200 W @ 42 VDC	1200 W @ 52.5 VDC
Constant current mode; Current limit setpoint (min/def/max)	15 / 27 / 27 A	10 / 21 / 21 A	8 / 17.6 / 18 A
Over-voltage protection, delayed shut down	59 VDC	59 VDC	74 VDC
Over-voltage protection, immediate shut down	62 VDC	62 VDC	76 VDC
Efficiency (@ 230 VAC)	92% typ.	90% typ.	90% typ.
Internal output fuse	50AT	40AT	40AT
Signals and Settings	ERM 48-1600	ERM 48-1200	ERM 60-1200
Settings (w/ remote access)	"FC", Float Charge voltage control // "SL", Support Level voltage control Output voltage level		
Settings (on unit front)	"CC" Constant current mode // "CP", Constant power mode Float charge voltage control // Support level voltage control Output voltage level Output current limit		
Load current share	Automatic		
Remote Alarms (over relay outputs)	Rectifier Fault (<i>no load, high temperature, DC overvoltage, output fuse fault</i>) Mains Fault		
LED on front	GREEN: ok, RED: Fault		

Physical and Environmental

Physical	ERM 48-1600	ERM 48-1200	ERM 60-1200
Dimensions (HxWxD)	230 x 83 x 340 mm		
Weight	4.6 kg		
Enclosure	IP 20 / IEC 529		
Connector, AC	Appliance plug IEC 320 / 10A male		
Connector, DC	21W4 D-connector, female		
Connector, Signal	RJ45		
Environmental	ERM 48-1600	ERM 48-1200	ERM 60-1200
Cooling	Natural convection		
Audible noise	< 45 dB(A)		
Operating temp, full specification (min/max)	-5 / +50 °C		
Operating temp, derated (min/max)	+50 / +70 °C	+50 / +70 °C	+50 / +70 °C
Storage temperature (min/max)	-25 / +70°C		
Humidity (max)	93% (relative humidity, non condensing)		
Altitude (max)	2000 m above sea level		
Standards	ERM 48-1600	ERM 48-1200	ERM 60-1200
EMC emission, AC	EN 300386:2005 class B	EN 55022 class B	
EMC emission, DC	EN 300386:2005 class B	EN 55022 class A	
EMC immunity, current harmonics	EN 300386:2005 class B	EN 50081-1, EN 61000-6-3	
Interface, Mains and DC	ETS 300 132-1 ETS 300 132-2	EN 50082-2, EN 61000-6-2 EN 61000-3-2	
Environmental	ETS 300 019-2-3 cl T3.2 ETS 300 019-2-1 cl T1.2 ETS 300 019-2-2 cl T2.3	IEC 60068-2-6, test Fc IEC 60068-2-27, test Ea IEC 60068-2-64, test Fh IEC 60068-2-29, test Eb IEC 60068-2-32, test Ed	
Safety	EN 60950-1(2001)	EN 60950-1	
Approvals	CE, CB		
RoHS, WEEE	2002/95/EC 2002/96/EC	2002/95/EC (01.07.2006)	
Quality	Manufacture and design under control of ISO 9001, ISO 14001		

PRODUCT SELECTION GUIDE

Rectifier

Description	Part no.	Fits in
ERM 48-1600 (48 VDC, 1600 W)	92F820-*	EPOS Modular –CS and –RU
ERM 48-1200 (48 VDC, 1200 W)	92C880-*	EPOS Modular –CS and –RU
ERM 60-1200 (60 VDC, 1200 W)	92D600-*	EPOS Modular –CS and –RU

* Note, “-“ to be replaced with revision letter (A,B,C,...) for a complete,valid product code.