

# PHOTOVOLTAIC SYSTEM MODULAR DIVERTER



PMD series is designed for any DC power systems such as photovoltaic (PV) power or other DC power supply systems used in industrial and commercial environments located in low to high exposure areas

- ◆ **Plug-in protection modules for easy maintenance**
- ◆ **Fault proof circuit design**
- ◆ **High surge handling capability up to 120KA**
- ◆ **Status indication**
- ◆ **Remote monitoring**
- ◆ **Redundant protection segments(80KA or above)**
- ◆ **Full range of voltage to choose**
- ◆ **Fits into most switching box**



**Plug-in protection modules for easy maintenance** - LEPS PMD series surge diverters uses state-of-the-art plug-in protection modules. This makes the maintenance work much more easy in case there is the need to replace the protection modules.

**Fault proof circuit design** - It has been engineered to the industry's safest criteria by using fault proof circuit design which not only avoids damage of the diverter due to insulation faults in the PV generator but also prevents damages caused by installation errors.

**High surge handling capability up to 120KA per line** - PMD series has surge rating from 20KA to 120KA per line which makes it an economical and ideal choice for any DC power protection at low to high exposure areas.

**Status indication** - All models have mechanical indicators per line to monitor the integrity of protection.

**Remote monitoring** - Models with suffix A features voltage free contacts with normal open/normal close contacts which change state to indicate a fault. It

can be interfacing with intelligent building management systems for remote indication.

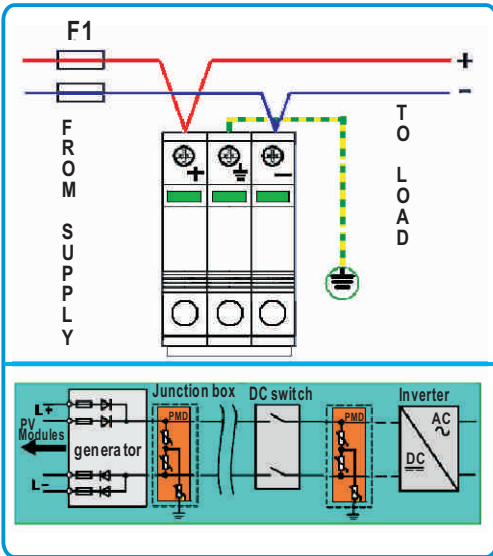
**Redundant protection segment** - 80KA or above models employs two independent fused and thermal overload protection elements to provide back-up protection for continued equipment survival despite a fault condition. This means you are never left unprotected.

**Full range of voltage to choose**- PMD series has plenty of voltage levels to chose. Sart from 110V to as high as 1500V dc models, users can find the right model for their protection requirements.

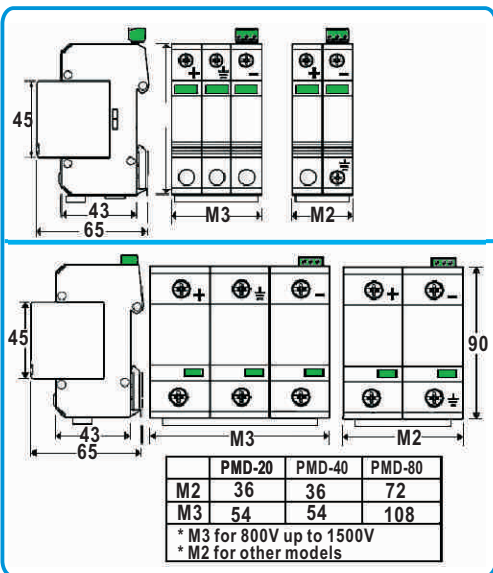
**Fits into most switching box** - It's compact design match the profile of most common MCBs at used which makes it ideal for inclusion in distribution or switchboard by mounting on the DIN43880 DIN rail.

## Installation

The diverters are connected in parallel with the protected system (load) as illustrated below:



## Dimensions



## Voltage range











MODEL	MAX. WORKING VOLTAGE, (Uc)	PROTECTION VOLTAGE, (Up)
PMD-20I	110V	250V
PMD-20J	220V	455V
PMD-20K	330V	710V
PMD-20L	500V	1025V
PMD-20M	600V	1240V
PMD-20H	800V	1650V
PMD-20U	1000V	1980V
PMD-20X	1200V	2400V
PMD-20Z	1500V	3050V
PMD-40I	110V	250V
PMD-40J	220V	455V
PMD-40K	330V	710V
PMD-40L	500V	1025V
PMD-40M	600V	1240V
PMD-40H	800V	1650V
PMD-40U	1000V	1980V
PMD-40X	1200V	2400V
PMD-40Z	1500V	3050V
PMD-80I	110V	250V
PMD-80J	220V	455V
PMD-80K	330V	710V
PMD-80L	500V	1025V
PMD-80M	600V	1240V
PMD-80H	800V	1650V
PMD-80U	1000V	1980V
PMD-80X	1200V	2400V
PMD-80Z	1500V	3050V

## General Specifications







SPD class(EN/IEC):	Class II/Type 2/C---PMD-20, PMD-40 Class I+II/Type 1+2/B+C---PMD-80
Max. working voltage, U <sub>c</sub> :	See page 3
Voltage protection level, U <sub>p</sub> :	See page 3
Max. discharge current, I <sub>max</sub> :	
PMD-20	20KA(8/20μs)
PMD-40	40KA(8/20μs)
PMD-80	80KA(8/20μs)
Earth leakage current:	10μA
Short circuit current rating, I <sub>sc</sub> :	1000A
Protection mode:	Transverse and common
Response time, t <sub>a</sub> :	<5ns
Standards compliance:	BS EN/IEC61643-11 AS1768-2007 cat.A.B.C IEEE C62.41 cat.A.B.C CP33-1999 cat.A.B.C UL1449 2nd & 3rd edition
Alarm isolation:	4KV
Status indicator:	Mechanical Indicator (Green=OK. Red=Fault)
Alarm(volt free contact):	N/O, N/C(2A @250Vac)
Alarm conductor size:	2.5mm <sup>2</sup>
Conductor size:	35mm <sup>2</sup> (stranded)
Case material:	Thermal Plastic UL94-V0
Mounting:	35mm DIN rail (DIN 43880)
Back up overcurrent protection:	125AgL/gG
Operating temperature, T <sub>u</sub> :	-40-85°C
Humidity:	0-95%(R.H.)
Altitude:	0-3650m
Weight:	
PMD-20--3 modules(M3)	370g
PMD-20--2 modules(M2)	250g
PMD-40--3 modules(M3)	410g
PMD-40--2 modules(M2)	275g
PMD-80--3 modules(M3)	540g
PMD-80--2 modules(M2)	360g

# ORDERING INFORMATION



MODEL	PRODUCT DESCRIPTION	PHOTO/DRAWING	
PMD-20I	PV system Modular Diverter, 20KA, 110Vdc	 <p>110-600V models</p>	 <p>800-1500V models</p>
PMD-20J	PV system Modular Diverter, 20KA, 220Vdc		
PMD-20K	PV system Modular Diverter, 20KA, 330Vdc		
PMD-20L	PV system Modular Diverter, 20KA, 500Vdc		
PMD-20M	PV system Modular Diverter, 20KA, 600Vdc		
PMD-20H	PV system Modular Diverter, 20KA, 800Vdc		
PMD-20U	PV system Modular Diverter, 20KA, 1000Vdc		
PMD-20X	PV system Modular Diverter, 20KA, 1200Vdc		
PMD-20Z	PV system Modular Diverter, 20KA, 1500Vdc		
PMD-20IA	PV system Modular Diverter, 20KA, 110Vdc, with dry-contact alarm	 <p>110-600V models</p>	 <p>800-1500V models</p>
PMD-20JA	PV system Modular Diverter, 20KA, 220Vdc, with dry-contact alarm		
PMD-20KA	PV system Modular Diverter, 20KA, 330Vdc, with dry-contact alarm		
PMD-20LA	PV system Modular Diverter, 20KA, 500Vdc, with dry-contact alarm		
PMD-20MA	PV system Modular Diverter, 20KA, 600Vdc, with dry-contact alarm		
PMD-20HA	PV system Modular Diverter, 20KA, 800Vdc, with dry-contact alarm		
PMD-20UA	PV system Modular Diverter, 20KA, 1000Vdc, with dry-contact alarm		
PMD-20XA	PV system Modular Diverter, 20KA, 1200Vdc, with dry-contact alarm		
PMD-20ZA	PV system Modular Diverter, 20KA, 1500Vdc, with dry-contact alarm		
PMD-40I	PV system Modular Diverter, 40KA, 110Vdc	 <p>110-600V models</p>	 <p>800-1500V models</p>
PMD-40J	PV system Modular Diverter, 40KA, 220Vdc		
PMD-40K	PV system Modular Diverter, 40KA, 330Vdc		
PMD-40L	PV system Modular Diverter, 40KA, 500Vdc		
PMD-40M	PV system Modular Diverter, 40KA, 600Vdc		
PMD-40H	PV system Modular Diverter, 40KA, 800Vdc		
PMD-40U	PV system Modular Diverter, 40KA, 1000Vdc		
PMD-40X	PV system Modular Diverter, 40KA, 1200Vdc		
PMD-40Z	PV system Modular Diverter, 40KA, 1500Vdc		
PMD-40IA	PV system Modular Diverter, 40KA, 110Vdc, with dry-contact alarm	 <p>110-600V models</p>	 <p>800-1500V models</p>
PMD-40JA	PV system Modular Diverter, 40KA, 220Vdc, with dry-contact alarm		
PMD-40KA	PV system Modular Diverter, 40KA, 330Vdc, with dry-contact alarm		
PMD-40LA	PV system Modular Diverter, 40KA, 500Vdc, with dry-contact alarm		
PMD-40MA	PV system Modular Diverter, 40KA, 600Vdc, with dry-contact alarm		
PMD-40HA	PV system Modular Diverter, 40KA, 800Vdc, with dry-contact alarm		
PMD-40UA	PV system Modular Diverter, 40KA, 1000Vdc, with dry-contact alarm		
PMD-40XA	PV system Modular Diverter, 40KA, 1200Vdc, with dry-contact alarm		
PMD-40ZA	PV system Modular Diverter, 40KA, 1500Vdc, with dry-contact alarm		
PMD-80I	PV system Modular Diverter, 80KA, 110Vdc	 <p>110-600V models</p>	 <p>800-1500V models</p>
PMD-80J	PV system Modular Diverter, 80KA, 220Vdc		
PMD-80K	PV system Modular Diverter, 80KA, 330Vdc		
PMD-80L	PV system Modular Diverter, 80KA, 500Vdc		
PMD-80M	PV system Modular Diverter, 80KA, 600Vdc		
PMD-80H	PV system Modular Diverter, 80KA, 800Vdc		
PMD-80U	PV system Modular Diverter, 80KA, 1000Vdc		
PMD-80X	PV system Modular Diverter, 80KA, 1200Vdc		
PMD-80Z	PV system Modular Diverter, 80KA, 1500Vdc		



MODEL	PRODUCT DESCRIPTION	PHOTO/DRAWING	
<b>PMD-80IA</b>	PV system Modular Diverter, 80KA, 110Vdc, with dry-contact alarm	 110-600V models	 800-1500V models
<b>PMD-80JA</b>	PV system Modular Diverter, 80KA, 220Vdc, with dry-contact alarm		
<b>PMD-80KA</b>	PV system Modular Diverter, 80KA, 330Vdc, with dry-contact alarm		
<b>PMD-80LA</b>	PV system Modular Diverter, 80KA, 500Vdc, with dry-contact alarm		
<b>PMD-80MA</b>	PV system Modular Diverter, 80KA, 600Vdc, with dry-contact alarm		
<b>PMD-80HA</b>	PV system Modular Diverter, 80KA, 800Vdc, with dry-contact alarm		
<b>PMD-80UA</b>	PV system Modular Diverter, 80KA, 1000Vdc, with dry-contact alarm		
<b>PMD-80XA</b>	PV system Modular Diverter, 80KA, 1200Vdc, with dry-contact alarm		
<b>PMD-80ZA</b>	PV system Modular Diverter, 80KA, 1500Vdc, with dry-contact alarm		
<b>PMD-120I</b>	PV system Modular Diverter, 120KA, 110Vdc	 110-600V models	 800-1500V models
<b>PMD-120J</b>	PV system Modular Diverter, 120KA, 220Vdc		
<b>PMD-120K</b>	PV system Modular Diverter, 120KA, 330Vdc		
<b>PMD-120L</b>	PV system Modular Diverter, 120KA, 500Vdc		
<b>PMD-120M</b>	PV system Modular Diverter, 120KA, 600Vdc		
<b>PMD-120H</b>	PV system Modular Diverter, 120KA, 800Vdc		
<b>PMD-120U</b>	PV system Modular Diverter, 120KA, 1000Vdc		
<b>PMD-120X</b>	PV system Modular Diverter, 120KA, 1200Vdc		
<b>PMD-120Z</b>	PV system Modular Diverter, 120KA, 1500Vdc		
<b>PMD-120IA</b>	PV system Modular Diverter, 120KA, 110Vdc, with dry-contact alarm	 110-600V models	 800-1500V models
<b>PMD-120JA</b>	PV system Modular Diverter, 120KA, 220Vdc, with dry-contact alarm		
<b>PMD-120KA</b>	PV system Modular Diverter, 120KA, 330Vdc, with dry-contact alarm		
<b>PMD-120LA</b>	PV system Modular Diverter, 120KA, 500Vdc, with dry-contact alarm		
<b>PMD-120MA</b>	PV system Modular Diverter, 120KA, 600Vdc, with dry-contact alarm		
<b>PMD-120HA</b>	PV system Modular Diverter, 120KA, 800Vdc, with dry-contact alarm		
<b>PMD-120UA</b>	PV system Modular Diverter, 120KA, 1000Vdc, with dry-contact alarm		
<b>PMD-120XA</b>	PV system Modular Diverter, 120KA, 1200Vdc, with dry-contact alarm		
<b>PMD-120ZA</b>	PV system Modular Diverter, 120KA, 1500Vdc, with dry-contact alarm		
<p><b>* Polycarbonate and metal enclosure for the above PMD series protectors are available</b></p> <p><b>* Other surge ratings (60KA, 100KA, etc) are available on request</b></p> <p><b>* Other voltage levels are available on request</b></p> <p><b>* Replacement protection modules for the PMD are available on request</b></p>			

