

INTERFACE PROTECTION SYSTEM UNIT



COMPLIANT WITH STANDARD
SHAMS DUBAI - **DRRG (DEWA)**
SEC (Saudi Electricity Company)

 **Lovato**
electric

ENERGY AND AUTOMATION



Order codes	Rated voltage		Qty per pkg n°	Wt [kg]
	Control [V]	Auxiliary [V]		
PMVF 60	230VAC 400VAC	100...240VAC/ 110...250VDC	1	0.470

Three-phase systems with or without neutral in low or medium voltage.
Dual threshold minimum and maximum voltage and frequency protection.
R.O.C.O.F and Vector shift. Modular type.

Voltage threshold

Voltage threshold	SHAMS DUBAI Default (%)	SHAMS DUBAI Default (s)	SEC Default (%)	SEC Default (s)
Vmax 59-2 (59 >>)	115%	0.20s	120%	0.20s
Vmax 59-Av (59 >)	110%	3.00s	110%	3.00s
Vmin 27-1 (27 <)	85%	0.40s	90%	0.40s
Vmin 27-2 (27 <<)	40%	0.20s	40%	0.20s

Frequency threshold

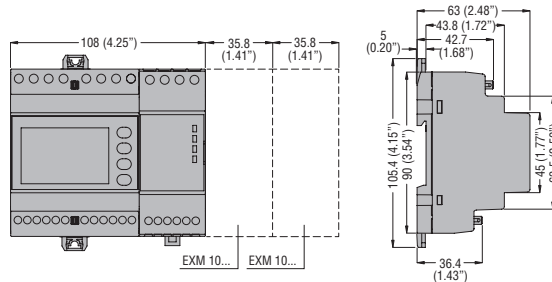
External signal for SHAMS DUBAI (do not consider for SEC)	Frequency threshold	SHAMS DUBAI Default (Hz)	SHAMS DUBAI Default (s)	SEC Default (Hz)	SEC Default (s)
ON	81>-2 (81>>)	OFF	0.10s	62.50 Hz	0.10s
OFF	81>-1 (81>)	52.50Hz	0.10s	OFF	0.10s
OFF	81<-1 (81<)	7.50Hz	4.00s	57.50 Hz	4.00s
ON	81<-2 (81<<)	OFF	4.00s	57.00 Hz	0.10s

EXPANSION MODULES

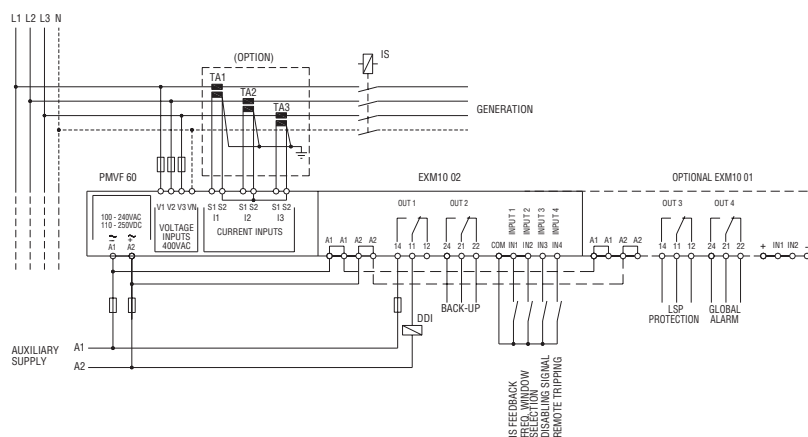


Order codes	Description
Communication ports.	
EXM10 10	Opto-isolated USB interface
EXM10 11	Opto-isolated RS232 interface
EXM10 12	Opto-isolated RS485 interface
EXM10 13	Opto-isolated Ethernet interface
EXM10 18	IEC/EN 61850 interface
Inputs and outputs.	
EXM10 01	2 digital opto-isolated inputs and 2 relay outputs 5A 250VAC

DIMENSIONS [mm (in)]



WIRING DIAGRAMS



General characteristics

PMVF 60 interface protection (IP) system unit has been developed according to the Engineering recommendation SHAMS DUBAI - **DRRG (DEWA)** - SEC (Saudi Electricity Company) technical standard. Each is used when a local generating system is connected in parallel with the low and medium voltage electric utility.

The controls refer to limits of voltage and frequency monitoring.

In the case when either the voltage or the frequency are out of admissible limits, the IP must step in by de-energising a relay output so that the interface switch (IS) trips.

PMVF 60 is equipped with 4 inputs having the following functions:

- IS status feedback
- External signal for frequency selection
- Disabling signal
- Remote tripping (forced IS opening, independent of voltage and frequency values).

Also, there are 2 relay outputs for:

- IS opening and closing
- Backup device opening (programmable: retentive normally energised, retentive normally de-energised or adjustable pulse).

The backup device consists of a signal contemporary or with a 0.5s delay respect to the IS opening command, transmitted only if the IS failed and did not complete the disconnection.

PMVF 60 also has 2 additional relay outputs to configure as:

- Autonomous signalling in case of phase power unbalance (LSP), only if three CTs are also installed
- Programmable alarm.

Operational characteristics

- Auxiliary voltage: 100...240VAC/110...250VDC
- Voltage inputs:
 - 400VAC (three-phase connection)
 - 230VAC (single-phase connection)
- Relay outputs 250VAC 5A (AC1) / 30VDC 5A
- Relay can be password protected to prevent parameters being altered
- 4 digital inputs
- Current inputs (optional): via CTs with selectable /5A or /1A secondary
- Programmable rated voltage, programmable voltage and frequency thresholds and delays
- Support of EXM series communications modules (USB, RS232, RS485, Ethernet)
- Modular housing: 6 modules
- Parameter configuration and remote control (only with communication expansion module) with software **Synergy** and **Xpress**
- Degree of protection: IP40 on front; IP20 on terminals
- Predisposed for IEC/EN 61850 signal supervision using expansion or external module
- Autotest (Self-test) function.

Reference standards

Compliant with standards: SHAMS DUBAI - DRRG (DEWA) - SEC (Saudi Electricity Company), IEC/EN 60255-5, IEC/EN 61010-1, IEC/EN 61000-6-2, IEC/EN 61000-6-4.