

Features

- The H2O Degree EM-3000 provides a variety of energy/power displays including:
 - True RMS Measurement
 - 4-Quadrant Energy
 - Power Quality Analysis
 - Over/Under Limit Alarm
 - Energy Pulse Output
 - TOU, 4 Tariffs, 12 Seasons and 14 Schedules
- Ideal for use as a data gathering device for building and plant automation systems.
- Leasy to read LCD display.
- Alarming feature can be selected from any of the 35 parameters available.
- Optional I/O module for digital input, pulse counter, pulse output and SOE.
- Two pulse output option allows for two digital ouputs configured for kWh and kvarh. The pulse rate and width can be set.
- All data is available vial digital RS485 communications running ModBus Protocol.
- Metering Features
 - Voltage V1, V2, V3, V12, V23, V31
 - Current I1, I2, I3, IN
 - Power P1, P2, P3, Psum
 - Reactive Power Q1, Q2, Q3, Qsum
 - Apparent Power S1, S2, S3, Ssum
 - Frequency F
 - Power Factor PF1, PF2, PF3, PF
 - Energy Ep_imp, Ep-exp
 - Reactive Energy Eq_imp, Eq_exp
 - Apparent Energy Es
 - Demand Dmd_I1, Dmd_I2, Dmd_I3, Dmd_P, Dmd_Q, Dmd, Dmd_S
- Monitoring Features
 - Power Quality
 - Voltage Harmonics 2nd ~ 31st and THD
 - Current Harmonics 2nd ~ 31st and THD
 - Voltage Unbalance Factor U_unbl
 - Current Unbalance Factor I_unbl
 - Max/Min Statistics
 - Meter Running Time and Load Running Time
- Optional configurations include single unit in pre-wired enclosure and multiple meter unit cabinets. Contact factory for additional information.



Overview

The H2O Degree EM-3000 series din-rail electric meter is a multi-function power meter for monitoring and power analysis of distribution feeders, transformers, generators, capacitor banks and motors. These meters are ideal for medium and low voltage systems in commercial and industrial applications.

Ordering Information

Model	Description
EM-3000 **	EM-3000 Electric Submeter in pre-wired enclosure

METERING			
Parameters	Accuracy	Resolution	Range
Voltage	0.5%	0.1V	20V 1000kV ~
Current	0.5%	0.001A	0 ~ 50000A
Current Demand	0.5%	0.001A	0 ~ 50000A
Power	0.5%	1W	-9999MW 9999MW ~
Reactive Power	0.5%	1Var	-9999Mvar 9999Mvar ~
Apparent Power	0.5%	1VA	0 ~ 9999MVA
Power Demand	0.5%	1W	-9999MW 9999MW ~
Reactive Power Demand	0.5%	1Var	-9999Mvar 9999Mvar ~
Apparent Power Demand	0.5%	1VA	0 ~ 9999MVA
Power Factor	0.5%	0,001	-1.0 ~ 1.0
Frequency	0.2%	0.01Hz	45.00 ~ 65.00Hz
Energy	0.5%	0.1kWh	0 ~ 99999999.9kWh
Reactive Energy	0.5%	0.1kvarh	0 ~ 99999999.9kvarh
Apparent Energy	0.5%	0,1 V ah	0 ~ 99999999.9kVAh
Harmonics	1.0%	0,01%	
Meter Running Time		0.1hrs	0 ~ 99999999.9hrs
Load Running Time		0.1hrs	0 ~ 99999999.9hrs

OPERATING ENVIRONMENT	
Operation Temperature	- 25°C to 70°C
Storage Temperature	- 40°C to 85°C
Relative Humidity	5% to 95% non-condensing
Pollution Degree	2

CONTROL POWER	
Universal AC/DC Control Power	AC or DC
Operating Range	100~415Vac, 50/60Hz, 100~300Vdc
Burden	3W
Withstand	3250Vac, 50/60Hz for 1 minute
Low Voltage DC Control Power (Optional)	
Operating Range	20 ~ 60VDC
Burden	3W

STANDARD COMPLIANCE	
Measurement Standard	IEC 62053-22 Class 0.2S, 62053-23 Class 2
Environmental Standard	IEC 60068-2
Safety Standard	IEC 61010-1, UL 61010-1, IEC 61557-12
EMC Standard	IEC 61000-4/-2-3-4-5-6-8-11, CISPR 22, IEC 61000-3-2, IEC 61000-6-2/4
Outlines Standard	DIN 43700/ANSI C39.1

COMMUNICATION
RS-485 (Optional) Modbus®-RTU Protocol 2-wire connection, Half-duplex, Isolated 1200 to 38400 baud rate Second RS485 (Acuvim-DL and Acuvim-EL can optional)
PROFI-BUS (Optional) PROFIBUS-DP/V0 Protocol Work as PROFIBUS slave, baud rate adaptive, up to 12M Typical input bytes: 32, typical output bytes: 32 PROFIBUS standard according to EN 50170 vol.2

DIGITAL INPUT OPTION	
Digital Input (DI)	
Input Type	Dry Contact
Input Resistance	4kΩ
Pulse Frequency (Max)	100Hz, 50% Duty Ratio
SOE Resolution	2ms

DIGITAL OUTPUT OPTION	
Digital Output (DO)	
Voltage Range	(Photo-MOS) 0~250Vac/dc
Load Current	100mA (Max)
Output Frequency (Max)	25Hz, 50% Duty Ratio
Isolation Voltage	2500V

INPUT		
Current Inputs (Each Channel)		
Nominal Current	5A / 1A	
Metering Range	0 ~ 10 A ac / 0 ~ ac 2A	
Withstand	20Arms continuous 100Arms for 1 second, non-recurring	
Burden	0.05VA (typical) @ 5Arms	
Pickup Current	0.1% of nominal	
Accuracy	0.5%	
Voltage Inputs (Each Channel)		
Nominal Full Scale	400Vac L-N, 690Vac L-L (+20%)	
Withstand	1500Vac continuous 2500Vac, 50/60Hz for 1 minute	
Input Impedance	2Mohm per phase	
Metering Frequency	45Hz~65Hz	
Pickup Voltage	10Vac	
Accuracy	0.5%	
Energy Accuracy		
Active	(according to IEC 62053-22)	classe 0.5s
	(according to ANSI C12.20)	classe 0.5s
Reactive	(according to IEC 62053-23)	classe 2
Harmonic Resolution		
Metered Value	2nd~31st harmonics	