

# E-POWER

## ECM700 Series

### Multifunction Power Meters



ECM725

ECM700



Harmonics

SOE

Modbus / Profibus

Digital I/O

Analog Output

Demand

E-Power Technology Ltd.

<http://www.e-powertech.ca>

# ECM725 Multifunction Measuring Meter

## Description

The ECM725 three phase multifunction measuring meter is compact designed device for monitoring and displaying electric parameters include voltage, current, active power, reactive power, apparent power, power factor, frequency, active energy and reactive energy.

Additional, ECM725 provide one RS485 serial (or optional Profibus) to link with PLC, PCs, and SCADA system etc.

The device is user-configurable enable users to add extendable DI/DO modules. And the auxiliary functions (SOE, harmonic analysis, 4-20mA analog output) are so powerful enough to satisfy different applications.



## Application

- Control panels, power quality analysis, energy management and building management system.

## Feature

- Large LCD screen, high brightness
- Compact design with real-time measurements
- Accuracy of typical measurement up to 0.1%
- External CT and PT programmable
- Demand calculation and maximum recording
- Maximum and minimum of instant measurement
- Revisable fixed value alarm and relay function
- Build-in clock and optional SOE function
- Up to 31st harmonic for voltage and current, THD and K factor for current
- 4-20mA analog output
- RS485 communication/ MODBUS protocol
- Optional Profibus module

## Performance Index

- Standard: DLT721-2000, IEC61000-4
- Power supply: 85~265VAC/ 45~65Hz, 100~ 300VDC
- Power loss < 3VA
- Power frequency withstand voltage: AC2kV/ min. ~1mA Input--Output--Power
- Insulation resistance > 50M
- Impulse withstand voltage: 5kV (peak), 1.2/50uS
- Input range:  
Current: AC 0~5A  
Voltage: 0~220VAC  
Frequency: 50/ 60Hz
- Overload capability: 120% of rated voltage or current
- Status input: up to 8 routes, provide internal 30VDC power supply
- Relay output: up to 4 routes, node capacity is 220VAC/5A, or 30VDC/5A
- Harmonic analysis: 31<sup>st</sup> odd component for voltage/current, THD, K factor
- Communication: RS485 port/ MODBUS protocol, optional PROFIBUS-DP module
- Electrical fast transient/burst immunity test: IEC61000-4-4, Level 4
- Surge immunity test: IEC61000-4-5, Level-3
- Electrostatic discharge immunity test: IEC61000-4-2, Level 4
- Operating temperature: -20~ 70
- Storage temperature: -40~85
- Humidity: 5~95%, non-condensing

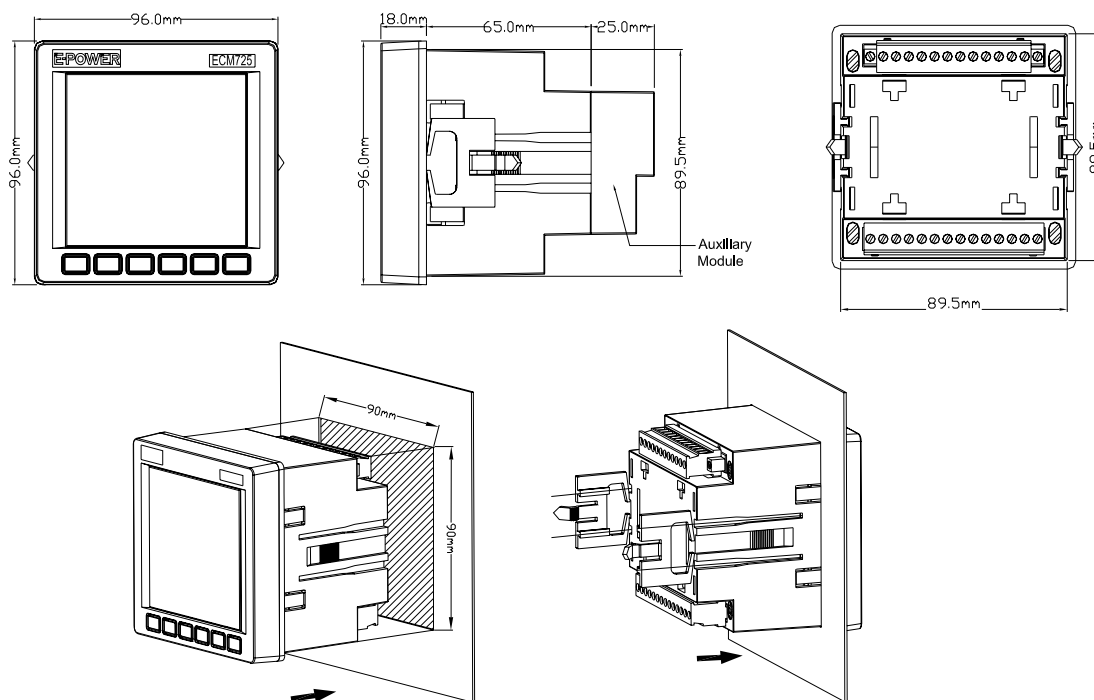
Parameter	Accuracy	Resolution	Measuring Range
Voltage	0.2%	0.01V	0~500 kV
Current	0.2%	0.001A	0~50,000 A
Power	0.2%	0.1W/Var/VA	0~100 MW/ MVar/ MVA
Power factor	0.2%	0.001	-1.0~+1.0
Frequency	0.1%	0.01Hz	35~ 65 Hz
Energy	1.0%	0.1kWh/kVarh	0~ 99,999,999.9 kWh/ kVarh
THD	1.0%	0.001	0~100.0%
Individual harmonic	1.0%	0.001	0~100.0%
Un-balance	1.0%	0.001	0~100.0%

**Remarks:** In typical measurement, current and voltage accuracy is up to 0.1%.  
Energy accuracy is according to IEC62053-21, class 1.

Feature	Model ECM-	725N	725A	725B	725E	725P
U-LL, U-LN, 3I, In, 3P, P, 3Q, Q, 3S, S, F, 3PF, PF, kWh, kvarh, Demand& maximum recording, Unbalance rate, Build-in clock, Max./min. recording, RS485 communication						
4 status input + 4 relay output						
8 status input + 2 relay output						
8 status input + 2 pulse output						
Profibus communication						
Harmonic analysis, K factor						
SOE						
One 4-20mA analog output						

Remark: = standard, =optional

## Dimension and Installation



## Order Information

ECM725-- -- -- --

: Module Structure

<b>N</b>	Basic Module
<b>A</b>	Basic Module + 4 Status Inputs (Dry Contact) + 4 Relay Outputs Ports
<b>B</b>	Basic Module + 8 Status Inputs (Dry Contact) + 2 Relay Outputs Ports
<b>E</b>	Basic Module + 8 Status Inputs (Dry Contact) + 2 Pulse Outputs
<b>P</b>	Basic Module + Profibus Module

: Auxiliary Function

<b>H</b>	Up to 31 <sup>st</sup> Harmonic Analysis, THD, K Factor
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: Auxiliary Function

<b>T</b>	SOE (Event Log) Function
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: Analog Port

<b>AO</b>	One 4-20mA Analog Output
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: Measurement Parameter

<b>V1</b>	Rated Voltage/ Current Input: 57.7/ 100V, 5A
<b>V2</b>	Rated Voltage/ Current Input: 57.7/ 100V, 1A
<b>V3</b>	Rated Voltage/ Current Input: 220/ 380V, 5A
<b>V4</b>	Rated Voltage/ Current Input: 220/ 380V, 1A

# Typical Connection

