Technical Specification

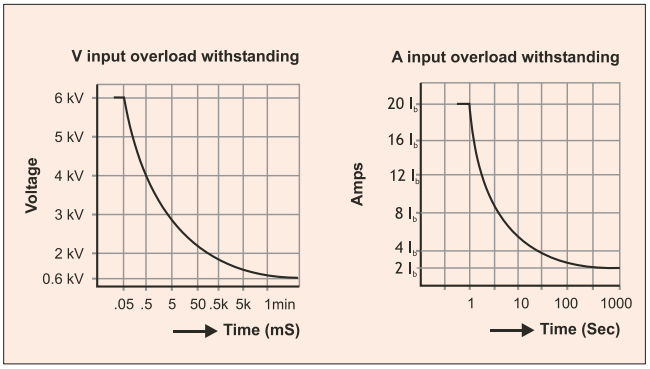
Sensing/ Measurement	True RMS, 1 sec update time 4 Quadrant Power & Energy
Accuracy	Class 1.0 as per IEC 62052-11 and IEC 62053-21 Class 0.5S (optional) as per IEC 62052-11, 62053-22 and ANSIC12.20 **Class 0.2S (optional) as per IEC 62052-11 and IEC 62053-22** New !
Aux Supply (Control Power)	44 to 300 Vac/dc
Input voltage	4 Voltage inputs (V1, V2, V3, VN) 110 or 415 Vac LL nominal(Range 80 to 600Vac LL)
Input current (Energy Measurement)	Current inputs (A1, A2, A3) 5A Class 1.0|0.5: 5mA (Starting) to 6A* 5A Class 0.5S|0.2S: 5mA (Starting) to 6A 1A Class 0.5S|0.2S: 1mA (Starting) to 1.2A
Overload	5A meter : 10A max continuous 1A meter : 2A max continuous
Burden	0.2VA max for each phase input voltage and current 3VA max on Aux Supply
Frequency	45 to 65 Hz
Resolution	RMS 4 digit, INTG 8 digit
Communication	RS 485 serial channel connection Industry standard Modbus RTU protocol
Isolation	2kV ac isolation for one min between all isolated circuits including communication port
Safety	Measurement category III, Pollution Degree 2, Protection against shock by double insulation at user accessible area
Environmental	Operating Temperature -10°C to 60°C (14°F to 140°F) Storage Temperature -25°C to +70°C (13°F to 158°F) Humidity 5% to 95% non condensing
Weight	400 gms approx. Unpacked 500 gms approx. Shipping
Warranty	**3 Years from date of Invoice** New !

Note: * For 5A universal meter additional error of 0.05% of full scale, for meter input current below 100mA

Accuracy

Measurement	Accuracy % of Reading		
	Cl 1.0	Cl 0.5S	Cl 0.2S
Volts LN per phase & Avg	1.0	0.5	0.2
Volts LL per phase & Avg	1.0	0.5	0.2
Amps per phase & Avg	1.0	0.5	0.2
Amps phase angle per phase	2°	1°	1°
Frequency	0.1	0.1	0.1
Active Power per phase & total	1.0	0.5	0.2
Reactive Power per phase & total	2.0	1.0	0.5
Apparent Power per phase & total	1.0	0.5	0.2
Active Energy Import/Export	1.0	0.5	0.2
Reactive Energy (Inductive/Capacitive)	2.0	1.0	0.5
Apparent Energy	1.0	0.5	0.2
RPM	1.0	0.5	0.2

Overload



Models

v3.03

Parameter		EM 6459	EM 6433	EM 6434	EM 6436	EM 6400
RMS	V V1 V2 V3 V12 V23 V31	●			●	●
	A A1 A2 A3	●	●		●	●
	An Neutral Current New !	C				C
	F	●			●	●
	% Load	●				●
	%A Unbal %V Unbal New !	●				●
	PF PF1 PF2 PF3	●		●	●	●
	%AFS Analog color coded load bar	●	●	●	●	●
	RPM	●				●
	A° Phase Angle A°1 A°2 A°3	●				●
	W W1 W2 W3		◉	●	◉	●
	VA VA1 VA2 VA3		◉	●	◉	●
	VAR VAR1 VAR2 VAR3			●		●
THD	V%1 V%2 V%3					THD □
	A%1 A%2 A%3					
DM	Demand VA/ W/ A New !					DM □
	Rising demand					
	Time remaining					
	MD Maximum demand					
	Hr MD occurred					
INTG	Wh		◉	●	◉	●
	VAh		◉	●	◉	●
	VARh			●		●
	-VARh			●		●
	Run hours		●	●	●	●
	ON hours	●	●	●	●	●
	INTR	●	●	●	●	●
INTG Export	R.Wh					IE □
	R.VAh					
	R.VARh					
	-R.VARh					
	Run hours					
OLD	Wh		◉	●	◉	●
	VAh		◉	●	◉	●
	VARh			●		●
	-VARh			●		●
	Run hours		●	●	●	●
OLD Export	R.Wh					IE □
	R.VAh					
	R.VARh					
	-R.VARh					
	Run hours					

Note: ● = Standard □ = Option specified while ordering
C = Only through communication
◉ = User selectable VAh/Wh through setup mode (EM6436, EM6433)

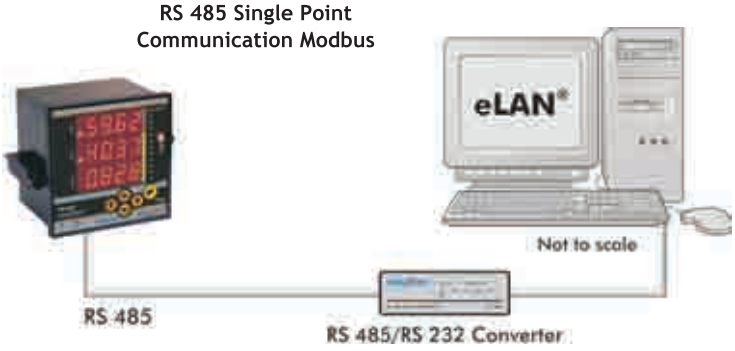
Digital Communication

RS 485 standard, communication capability using open Modbus RTU protocol. The meters can be multi-dropped using RS 485 twisted pair. The baud rate can be set from 1200 bps to 19200 bps. (Preferred settings is 9600 bps.) RS 485 Half duplex isolated serial channel connection.

BMS Compatible

Access of either single (individual) parameter or block of parameters through RS 485 communication port. Integrates with Honeywell, Siemens Building Technologies and other BMS packages.

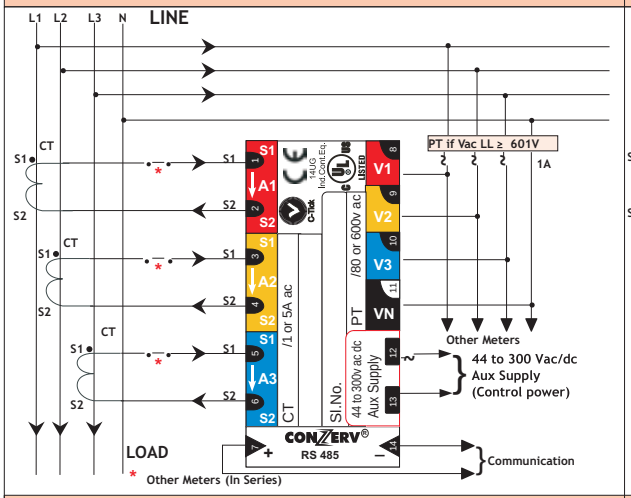
RS 485 Single Point Communication Modbus



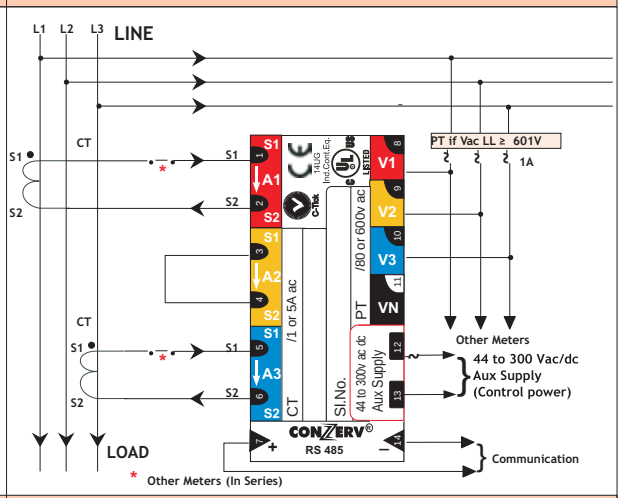
RS 485 Multi-Point Communication Modbus

Wiring Diagram

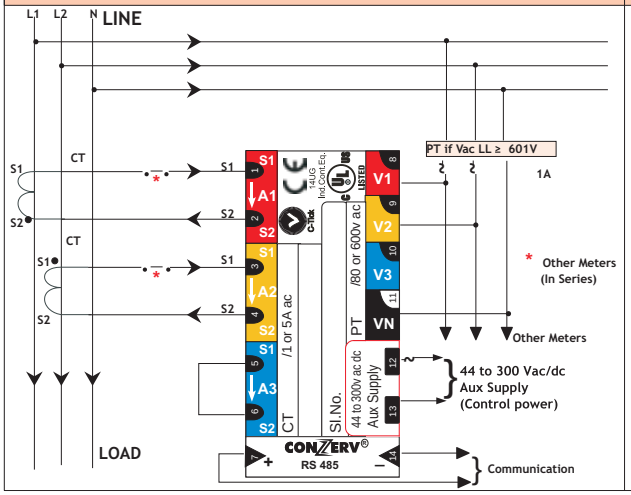
3 Phase 4 Wire star (wye)



3 Phase 3 Wire Delta



2 Phase 3 Wire



Single Phase