

							
Type			ECRAS 100	ECRAS 120	ECRAS 200	ECRAS 220	ECRAS 100 VCF
Definiton			3Ø Multimeter	3Ø Multimeter	3Ø Multimeter	3Ø Multimeter	3Ø Multimeter
Order Number			606210	606211	606212	606213	606218
General		Seven Segment Display	Available	Available	Available	Available	Available
		LCD	-	-	-	-	-
		Language Support	-	-	-	-	-
		Battery	-	-	-	-	-
		Real Time Clock	-	-	-	-	-
		Password Protection	Available	Available	Available	Available	Available
		Current Transformer Ratio	1-5000	1-5000	1-5000	1-5000	1 - 5.000
		Voltage Transformer Ratio	1-5000	1-5000	1-5000	1-5000	1 - 5.000
		Demand Period	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	1-60 minutes adjustable	-
		Connection Type	3P4W, 3P3W	3P4W, 3P3W	3P4W, 3P3W	3P4W, 3P3W	3P4W, 3P3W
		Measurement in Quadrants	4	4	4	4	-
		Number of Measurement in a period	256	256	256	256	256
		LCD/Display Refresh Period	1 sec	1 sec	1 sec	1 sec	1 sec.
		Networks	TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT	TT, TN, IT
		Phasor Diagram	-	-	-	-	-
Energy Measurement		Signal Waveforms	-	-	-	-	-
		Min/Max/Demand Values	Available	Available	Available	Available	-
		Number of Tariffs	1	1	1	1	-
		Multi Sub-Tariffs(Peak, Day and Off-Peak)	-	-	-	-	-
		1Ø Phase Energy Meters	Available	Available	Available	Available	-
Current Measurement Input		3Ø Phase Energy Meters	Available	Available	Available	Available	Available
		4-Quadrant Reactive Energy Meters	-	-	-	-	-
		Measurement Range	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC	10mA-6A AC
		Overvoltage Category	300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II	300 V Cat II
		Measurement Surge Voltage	2 kV	2 kV	2 kV	2 kV	2 kV
Voltage Measurement Input		Power Consumption	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA	<0.2 VA
		intermittent overload	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec	100A for 1 sec
		Sampling Freq.between 45-65 Hz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz
		Overvoltage Category	300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III	300 V Cat III
		Measured Range L-N	1-300 Vrms	1-300 Vrms	1-300 Vrms	1-300 Vrms	1-300 Vrms
Power Quality Measurements		Measured Range L-L	2-500 Vrms	2-500 Vrms	2-500 Vrms	2-500 Vrms	2-500 Vrms
		Measured Frequency Range	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz	45-65 Hz
		Power Consumption	<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA	<0.1 VA
		Sampling Freq.between 45-65 Hz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz	12,8 kHz
		Harmonics for current and voltage phases	Upto 31st	Upto 31st	Upto 31st	Upto 31st	-
Other Measurements		THD-Voltage in %	Available	Available	Available	Available	-
		THD-Current in %	Available	Available	Available	Available	-
		Run Hour (Operating time for load in hours)	Available	Available	Available	Available	-
		On Hour (Operating time for meter in hours)	Available	Available	Available	Available	-
		Int Counter (Number of power interruptions)	Available	Available	Available	Available	-
Measurement Accuracy		According to IEC 61557-12	Total Active Power	Class 0.5	Class 0.5	Class 0.5	Class 0.5
			Total Reactive Power	Class 1	Class 1	Class 1	Class 1
			Total Apparent Power	Class 0.5	Class 0.5	Class 0.5	Class 0.5
			Total Active Energy	Class 0.5	Class 0.5	Class 0.5	Class 0.5
			Total Reactive Energy	Class 2	Class 2	Class 2	Class 2
			Frequency	Class 0.1	Class 0.1	Class 0.1	Class 0.1
			Current	Class 0.5	Class 0.5	Class 0.5	Class 0.5
			Neutral Current (calculated)	Class 0.5	Class 0.5	Class 0.5	Class 0.5
			Voltage	Class 0.2	Class 0.2	Class 0.2	Class 0.2
			Power factor	Class 0.5	Class 0.5	Class 0.5	Class 0.5
			THDV, THDI	Class 1	Class 1	Class 1	Class 1
		According to IEC 62053-22	Total Active Energy	Class 0.5S	Class 0.5S	Class 0.5S	Class 0.5S
		According to IEC 62053-23	Total Reactive Energy	Class 2	Class 2	Class 2	Class 2
Inputs and Outputs		Alarm Relay Outputs	Number of outputs	-	2 pcs.	-	2 pcs.
			Type	-	NO (SPST)	-	NO (SPST)
			Max. Switching Current	-	10 A AC / 5 A DC	-	10 A AC / 5 A DC
			Max. Switching Voltage	-	250 V AC / 30 V DC	-	250 V AC / 30 V DC
			Max. Switching Power	-	1250 VA / 150 W	-	1250 VA / 150 W



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Inputs and Outputs	Digital Inputs	Number of inputs	-	-	-	-	-
		Minimum Counting Frequency	-	-	-	-	-
		Input Present or Not	-	-	-	-	-
		Isolation Level	-	-	-	-	-
	Digital Outputs	Number of outputs	-	-	-	-	-
		Type	-	-	-	-	-
		Switching Voltage Range	-	-	-	-	-
		Minimum Switching Frequency	-	-	-	-	-
		Isolation Level	-	-	-	-	-
	Analog Outputs	Number of outputs	-	-	-	-	-
Range of Outputs 0-5 V, 0-10 V, -5-5 V, -10-10V, 0-20 mA, 4-20 mA		-	-	-	-	-	
Isolation		-	-	-	-	85-300V	
Supply	Voltage	AC	85-300V	85-300V	85-300V	85-300V	85-300V
		DC	85-300V	85-300V	85-300V	85-300V	85-300V
	Consumption	AC	<6VA	<6VA	<6VA	<6VA	<6VA
		DC	<3W	<3W	<3W	<3W	<3W
	Frequency		45-65Hz	45-65Hz	45-65Hz	45-65Hz	45-65Hz
Data Logging with timestamp	Min/max/avg Values	Hourly records	-	-	-	-	-
		Daily records	-	-	-	-	-
		Monthly records	-	-	-	-	-
	Demand		-	-	-	-	-
	Alarm records		-	-	-	-	-
Communication	Protocol		-	-	Modbus RTU	Modbus RTU	-
	Baud rate		-	-	1200-57600 bps adjustable	1200-57600 bps adjustable	-
	Parity number		-	-	Odd, Even, None	Odd, Even, None	-
	Stop bit		-	-	1	1	-
	Address		-	-	1-247	1-247	-
	Isolation		-	-	2750V RMS	2750V RMS	-
Mechanical Properties	Weight(g)		272	290	296	316	221
	Protection Class		Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)	Front IP40 / Rear IP20 (IP66 with accessory)
	Assembly Type		Panel Mount	Panel Mount	Panel Mount	Panel Mount	Panel Mount
Cable Cross Sections	Supply, Voltage, Current, Relay Outputs	Stranded:	2,5 mm2 - 14AWG	2,5 mm2 - 14AWG	2,5 mm2 - 14AWG	2,5 mm2 - 14AWG	2.5mm ² - 14AWG
		Solid:	4mm2-12 AWG, 2x1.5 mm2-2x16 AWG	4mm2-12 AWG, 2x1.5 mm2-2x16 AWG	4mm2-12 AWG, 2x1.5 mm2-2x16 AWG	4mm2-12 AWG, 2x1.5 mm2-2x16 AWG	4mm ² - 12AWG, 2x1.5mm ² - 2x16AWG
	Digital I/O, RS 485, Analog Output	Stranded:	-	-	1,5 mm2-16AWG	1,5 mm2-16AWG	-
		Solid:	-	-	1.5 mm2-16 AWG, 2x0.75 mm2-2x18 AWG	1.5 mm2-16 AWG, 2x0.75 mm2-2x18 AWG	-
Ambient Conditions	Operating Temperature		-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C	-20 to +70 °C
	Storage Temperature		-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30 to +80 °C	-30°C +80°C
	Relative Humidity (no condensation)		Max.95%	Max.95%	Max.95%	Max.95%	Maks. 95%
Accessories		Type	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)	IP66 Silicone Cover (96x96mm)
		Definition	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER	SILICONE COVER
		Order Number	250 001	250 001	250 001	250 001	250 001
		Packaging unit	2	2	2	2	2

Type		ECRAS 100	ECRAS 120	ECRAS 200	ECRAS 220	ECRAS 100 VCF
Schematics	Network Connections	<div><div><p>3 wires with 3 CTs</p></div><div><p>4 wires with 3 CTs</p></div></div>				
	Digital I/O And Alarm Output Connections	-	<div><p>Alarm Relay Output</p></div>	-	<div><p>Alarm Relay Output</p></div>	-
	Analog Output Connection	-	-	-	-	-