Eastron

Panel Mounted / Three Phase / (Rogowski Coils) SMART X96-3RC

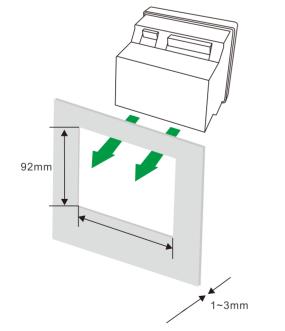
- Datasheet
- Multi-parameter measurements
- Up to 63rd THD and IHD
- RS485 Modbus RTU
- No need external integrator
- 3 selectable current scales
- PT operated
- Accuracy class 0.5s
- Bar Graph for power indication
- Backlit LCD display for full viewing angles
- Push-in installation and plug-in connection

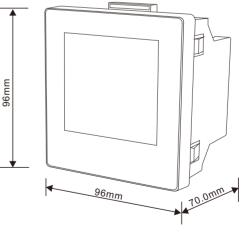


SMART X96-RC is innovative instrument for measurement of electrical parameters. The meters are particularly suitable consumption analysis and control, with an excellent quality and stability. The meters directly connected with Rogowski Coil for current measurement, without external integrator. The connections are very quick and easy, very useful for retrofitting applications on existing switchboards or energy audit. The meters are the ideal instrument to establish the measurement points on the plant. Built-in interfaces provides RS485 Modbus RTU. SMART X96-RC series used not only in the electricity transmission and power distribution system, but also in the power consumption measurement and analysis in high voltage intelligent power grid. The meters measure and display the characteristics of 1p2w ,3p4w and 3p3w supplies, include voltage, frequency, current, power and active and reactive energy, imported or exported, power factor, Max. demand etc.

Mounting

Dimension Drawing





Height 96mm Widht 96mm Depth 70mm

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Specification Table

VT Primary100-500000 acUN230 VL-NMeasured voltage with over-range and crest factor100 to 480Vac L-L 100 to 276Vac L-NPermanent overload490V L-L 280V L-NImpedance1M flFrequency range45-66HzCF RatingsPrimary - 1KA/SKA/Z0KA Secondary - 85mV/KA rogowski collWithstandCritinuous 8A 120A for L5 SecondsImpedance< 1m flFrequency range45-66HzBrodence< 1036WA at 6AFrequency range45-66HzBrodence< 0.036WA at 6AFrequency range85-275VA C / 120-380V DCPower consumption< 7VA/3.5W.Frequency85-275VA C / 120-380V DCPower consumption< 7VA/3.5W.Frequency1EC 65053-22 Class 0.5SRactive energyIEC 65053-22 Class 0.5SFrequency0.1%Current0.2%Vore factor0.2%Vore factor0.01%Current2Power factor< 10.1%Current2Power factor2.1%Power factor< 25 to 4.55 "CPower factor< 25 to 4.55 "CPortanig temperature< 26 to 4.50 "CPortanig temperature< 26 to 4.	Input Voltage				
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Neededure Voilage with over-large and cless racion 100 to 276Vac L-N Permanent overload 490V L-L 280V L-N Impedance 1M 0 Frequency range 45-66Hz Input Current Continuous 8A CT Ratings Secondary - 86mV/kA rogowski coil Withstand Continuous 8A 120A for 0.5 Seconds Impedance Impedance <1 m0	UN	230 V L-N			
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Input Current CT Ratings Primary - 1kA/5kA/20kA Secondary - 85mV/kA rogowski coll Withstand Continuous 8A 120A for 0.5 Seconds Impedance <1 mΩ	Impedance	1ΜΩ			
Primary - 1kA/5kA/20kA Secondary - 85mV/kA rogowski collCT RatingsSecondary - 85mV/kA rogowski collWithstandContinuous 8A 120A for 0.5 SecondsImpedance<1 m0	Frequency range	45~66Hz			
CT RatingsSecondary - 85mV/kA rogowski coilWithstandContinuous 8A 120A for 0.5 SecondsImpedance<1 mQ	Input Current				
Wittstand120A for 0.5 SecondsImpedance<1 mΩ	CT Ratings				
Frequency range45-66HzBurden<0.036VA at 6A	Withstand				
Burden<0.036VA at 6AAuxilary Power Supply85-275V AC / 120-380V DCOperating range85-275V AC / 120-380V DCPower consumption< 7VA/3.5W.	Impedance	<1 mΩ			
Auxilary Power SupplyOperating range85–275V AC / 120–380V DCPower consumption< 7VA/3.5W.	Frequency range	45~66Hz			
Operating range85-275V AC / 120-380V DCPower consumption< 7VA/3.5W.	Burden	<0.036VA at 6A			
Power consumption< 7VA/3.5W.Prequency45 to 65 HzAccuracyPowerIEC 61557-12 Class 0.5Active energyIEC 61557-12 Class 0.5SActive energyIEC 62053-22 Class 0.5SReactive energyIEC 62053-23 Class 2Frequencyt0.1%Current±0.2%Voltage±0.2%Power factor±0.01%HArmonic distortion2Environental-25 to +55°CStorage temperature-40 to +70°CHumidity rating95% RH at 50°C (non-condensing)Pollution degree2Atitude3000m	Auxilary Power Supply				
Frequency45 to 65 HzAccuracyPowerIEC 61557-12 Class 0.5Active energyIEC 62053-22 Class 0.5SReactive energyIEC 62053-23 Class 2Reactive energyIEC 61557-12 Class 0.5SReactive energyIEC 61557-12 Class 0.5SPower factor±0.2%Voltage±0.2%Power factor±0.01%HArmonic distortion2Environmental	Operating range	85~275V AC / 120~380V DC			
AccuracyPowerIEC 61557-12 Class 0.5Active energyIEC 62053-22 Class 0.5SReactive energyIEC 62053-23 Class 2Reactive energyIEC 62053-23 Class 2Frequency±0.1%Current±0.1%Voltage±0.2%Power factor±0.01%HArmonic distortion2EnviromentalOperating temperature-25 to +55°CStorage temperature-40 to +70°CHumidity rating2Pollution degree2Attude3000m	Power consumption	< 7VA/3.5W.			
PowerIEC 61557-12 Class 0.5Active energyIEC 62053-22 Class 0.5S IEC 61557-12 Class 0.5SReactive energyIEC 62053-23 Class 2 IEC 61557-12 Class 2Frequency±0.1%Current±0.2%Voltage±0.2%Power factor±0.01%HArmonic distortion2EnviromentalOperating temperature-25 to +55°CStorage temperature-40 to +70°CHumidity rating95% RH at 50°C (non-condensing)Pollution degree2Attude3000m	Frequency	45 to 65 Hz			
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Heactive energyIEC 61557-12 Class 2Frequency±0.1%Current±0.2%Voltage±0.2%Power factor±0.01%HArmonic distortion2EnvironentalOperating temperature-25 to +55°CStorage temperature-40 to +70°CHumidity rating95% RH at 50°C (non-condensing)Pollution degree2Atitude3000m	Active energy				
Current ±0.2% Voltage ±0.2% Power factor ±0.01% HArmonic distortion 2 Environmental Operating temperature -25 to +55°C Storage temperature -40 to +70°C Humidity rating <95% RH at 50°C (non-condensing)	Reactive energy				
Voltage±0.2%Power factor±0.01%HArmonic distortion2EnvironmentalOperating temperature-25 to +55°CStorage temperature-40 to +70°CHumidity rating<95% RH at 50°C (non-condensing)	Frequency	±0.1%			
Power factor ±0.01% HArmonic distortion 2 Enviromental -25 to +55°C Operating temperature -40 to +70°C Humidity rating 95% RH at 50°C (non-condensing) Pollution degree 2 Attitude 3000m	Current	±0.2%			
HArmonic distortion 2 Enviromental -25 to +55°C Operating temperature -25 to +55°C Storage temperature -40 to +70°C Humidity rating <95% RH at 50°C (non-condensing)	Voltage	±0.2%			
Environmental Operating temperature -25 to +55°C Storage temperature -40 to +70°C Humidity rating <95% RH at 50°C (non-condensing)	Power factor	±0.01%			
Operating temperature -25 to +55°C Storage temperature -40 to +70°C Humidity rating <95% RH at 50°C (non-condensing)	HArmonic distortion	2			
Storage temperature -40 to +70°C Humidity rating <95% RH at 50°C (non-condensing)	Enviromental				
Humidity rating <95% RH at 50°C (non-condensing)	Operating temperature	-25 to +55°C			
Pollution degree 2 Attitude 3000m	Storage temperature	-40 to +70°C			
Altitude 3000m	Humidity rating	<95% RH at 50°C (non-condensing)			
	Pollution degree	2			
Vibration 10Hz to 50Hz, IEC 60068-2-6	Altitude	3000m			
	Vibration	10Hz to 50Hz, IEC 60068-2-6			

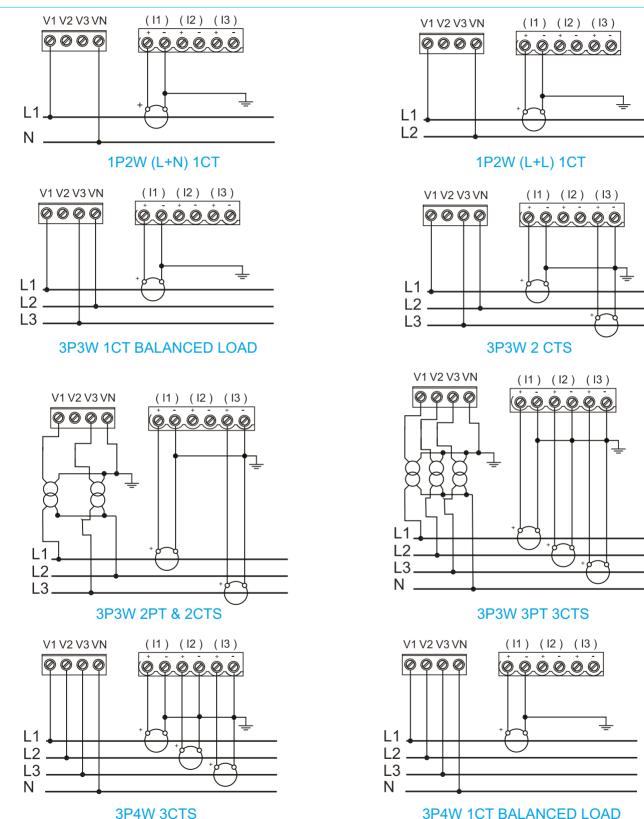
Communications	
Interface standard and protocol	RS485 and MODBUS RTU
Communication address	1~247
Transmission mode	Half duplex
Data type	Floating point
Transmission distance	1000m Maximum
Transmission speed	2400bps~38400bp
Parity	None (default), Odd, Even
Stop bits	1 or 2
Response time	<100 mS
Enclosure	
Weight	420g
IP Degree of protection (IEC 60529)	IP51 front display
Dimensions (WxHxD)	96x96x70
Mounting position	Vertical
panel thickness	1~5mm
Material of meter case	Self-extinguishing UL 94 V-0
Mechanical environment	M1
Safety	
Measurement category	Per IEC61010-1 CAT III
Current inputs	Require external Current Transformer for Insulation
Over voltage category	CAT III
Dielectric withstand	As per IEC 61010-1 Double Insulated front panel display
Protective class	II
Electromagnetic Compatibilty	
Electrostatic discharge	IEC 61000-4-2
Immunity to radiated fields	IEC 61000-4-3
Immunity to fast transients	IEC 61000-4-4
Immunity to impulse waves	IEC 61000-4-5
Conducted immunity	IEC 61000-4-6
Immunity to magnetic fields	IEC 61000-4-8
Immunity to voltage dips	IEC 61000-4-11
Radiated emissions	EN55011 Class A
Conducted emissions	EN55011 Class A
Harmonics	IEC 61000-3-2



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Wiring Configuration



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Ordering Options

Meter Type	Description of Meter
SMART X96-3RC	1p2w ,3p4w and 3p3w,3x230(400)V, 85mV/kA rogowski coil input, no need external integrator, Class 1.0 50/60Hz, Backlighted LCD display, RS485 Modbus RTU. Measures kWh, kVarh, W, Var, VA, V, A, PF, THD, Hz, Max.DMD, Imp_kWh, Exp_kWh etc.

Rogowski Coil

\frown	Coil Code	Reference Rated Current	Class	Window Size(mm)	Coil Length(mm)
	ESCT-RC60	500A	0.5	50	200
	ESCT-RC100	1000A	0.5	100	395
	ESCT-RC150	5000A	0.5	150	525

Conformity References

Electromagnetic Compatibility: EN61326-1:2013 & EN61326-2-3:2013

Low Voltage Directive: EN 61010_1:2010+A1:2019 & EN 61010-2-30-2010