

CATALOG

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Creating Best Value



- Meters • CTs • Protection Relays • Automatic Power Factor Controllers
- Timers • Time Switches • PLCs • HMI • Temperature Controllers
- Process Indicators • Counters

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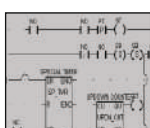
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ELECTRICAL PRODUCTS

Meters / APFCs / Current Transformers



METERS

- Multifunction
- Energy
- DPM
- Analog

AUTOMATIC POWER FACTOR CONTROLLERS

- 8/12 steps in 144 x 144mm size
- 12 steps with built in VAF in 144 x 144mm size
- 8 steps in 96 x 96mm size

CURRENT TRANSFORMERS

- SPCT (Bus Bar type)
- RCT (Cable type)
- TWCT (Tape Wound type)

Applicable EMI / EMC Standards

Product Standard : IEC 61326-1

Category	Standards Compliance	
ESD Immunity	IEC 61000-4-2	Level IV (Air discharge : 15kV), (Contact Discharge : -8kV)
Surge Immunity	IEC 61000-4-5	+/- 2kV common mode, (Line to ground) +/- 1kV differential mode, (Line to Line)
Radiated Susceptibility	IEC 61000-4-3	Level III, 80 to 1000MHz (10V/m) Level II, 1.4GHz to 2GHz (3V/m) Level I, 2GHz to 2.7GHz (1V/m)
Conducted Susceptibility	IEC 61000-4-6	Level II (3V/m)
Voltage Dips and Interruptions	IEC 61000-4-11	Dips : 0% residual voltage / 1 cycle (Criteria B), 40% residual voltage / 10 cycles 50Hz / 12 cycles 60Hz (Criteria C) 70% residual voltage / 25 cycles 50Hz / 30 cycles 60Hz (Criteria C) Interruptions : 0% residual voltage / 250 cycles 50Hz / 300 cycles 60Hz (Criteria C)
Conducted Emission	CISPR-11	
Radiated Emission	CISPR-11	
Electrical Fast Transient	IEC 61000-4-4	Level III (2kV)

Note : Above standards are applicable only for CE certified Multifunction Meters, Digital Panel Meters & Automatic Power Factor Controllers



MFM384

Size : 96 x 96mm



MFM383A

Size : 96 x 96mm



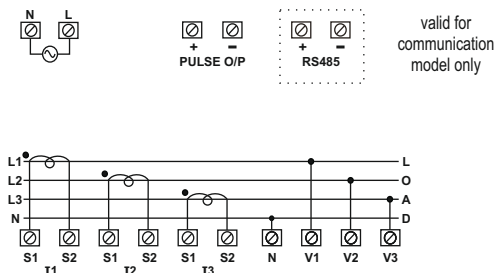
MFM376

Size : 96 x 96mm

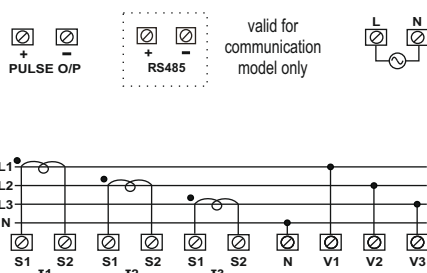
FEATURES	- LCD with Bargraph - Single Pulse Output - THD upto 31st level - Max / Min Demand (Power) - Max Demand Current	- Single Pulse Output - Energy (Active / Reactive / Apparent)	- Single Pulse Output - Max / Min Demand (Power) - Run Hour - Auxiliary Interrupts - Phase Angle Detection
DISPLAY	LCD with Backlight	LCD with Backlight	7 segment LED
DIGITS	4 rows of 4 digits, Bargraph representation for current, 1 row of 8 digits for energy display	3 rows of 4 digits, 7½ digits for energy display	3 rows of 4 digits
ELECTRICAL CONNECTION	3Ø - 4W, 3Ø - 3W, 2Ø - 3W, 1Ø - 2W		
RATED INPUT VOLTAGE	11 to 300V AC (L - N), 19 to 519V AC (L - L)		
RATED INPUT CURRENT	Nominal 5A AC (Min - 11mA ; Max - 6A)		Nominal 5A AC (Min - 14mA ; Max - 6A)
RESOLUTION	For energy : 0.01k, 0.1k, 1k, 0.01M, 0.1M, 1M (depending upon CT ratio x PT ratio), For Power, Voltage & Current : Auto resolution, For Power factor : 0.001	For energy : 0.1k, 1k (depending upon CT ratio x PT ratio) For Power, Voltage & Current : Auto resolution, For Power factor : 0.001	For energy : 0.01k, 0.1k, 1k, 0.01M, 0.1M, 1M (depending upon CT ratio x PT ratio), For Current, Voltage, Power : Auto resolution, For Power factor : 0.001
CT PRIMARY	1 / 5A to 10kA (Programmable for any value)		
CT SECONDARY	1 / 5A (Programmable)		
PT PRIMARY	100V to 500kV (Programmable for any value)	100V to 10kV (Programmable for any value)	100V to 500kV (Programmable for any value)
PT SECONDARY	100 to 500V AC (L - L) (Programmable for any value)		
COMMUNICATION	RS485 Communication MODBUS RTU Protocol (Optional)		
MEASURING PARAMETER	Voltage (L - L / L - N) (Individual / Average), Current (Individual / Average), Frequency, Power Factor (Individual / Total), Active, Reactive & Apparent power (Individual / Total), Active, Reactive & Apparent Energy (Total)		
ADDITIONAL FUNCTIONS	Phase sequence detection, Neutral Current Measurement	---	Max instantaneous (Current / Voltage), (Import / Export) Energy, THD upto 31 st level (For MFM376-C)
SUPPLY VOLTAGE	100 to 240V AC, -15% to +12%, 50/60Hz (Power consumption : Less than 8VA)		240V AC, ±20% (For MFM376-230VAC), 50 / 60Hz 85V to 270V AC 50 / 60Hz & 40 to 270V DC, (For MFM376-C)

Terminal Connections

MFM384 / MFM383A



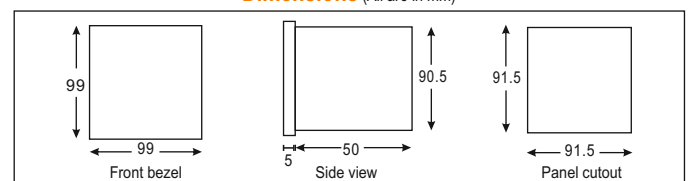
MFM376



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	OUTPUT		CERTIFICATION
		PULSE OUTPUT	COMM	
MFM384-C-CU-G	100V to 240V AC -15% to +12%	YES	YES	CE
MFM384-C-CE		YES	YES	CE
MFM383A		YES	---	---
MFM383A-C-CE		YES	YES	CE
MFM383A-CU	240V AC ± 20%	YES	---	CE
MFM376-230V AC	85 to 270V AC, 40 to 270V DC	YES	---	---
MFM376-C		YES	YES	CE

Dimensions (All are in mm)





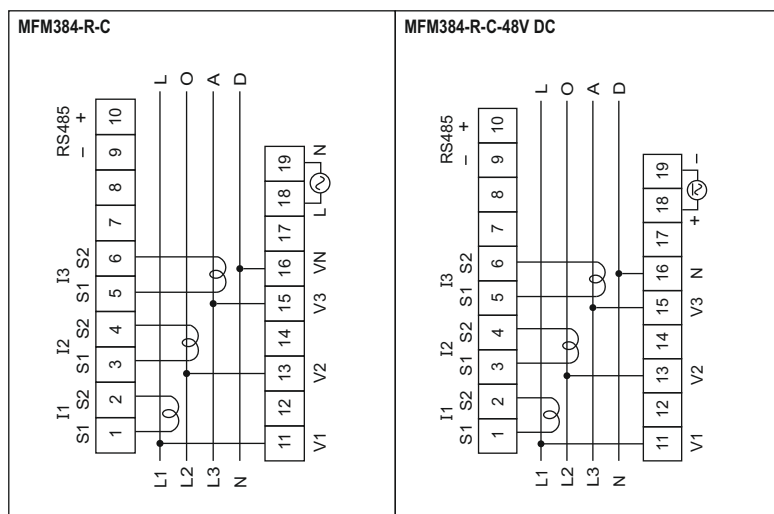
MFM384-R-C
Size : 70 x 90mm



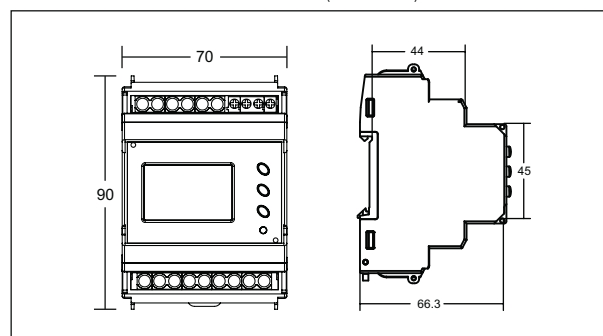
MFM384-R-C-48V DC
Size : 70 x 90mm

FEATURES	• Energy (Active, Reactive, Apparent) • RS485 Communication MODBUS RTU Protocol • Import / Export Energy • Max / Min Demand Power • 85 to 270V AC Supply		• Energy (Active, Reactive, Apparent) • RS485 Communication MODBUS RTU Protocol • Import / Export Energy • Max / Min Demand (Power) • DC - 30 to 60V ; AC - 18 to 36V Supply	
DISPLAY	LCD with Backlight			
DIGITS	1 row of 4 digits, 2 rows of 7 digits			
ELECTRICAL CONNECTION	3Ø - 4W, 3Ø - 3W, 2Ø - 3W, 1Ø - 2W			
RATED INPUT VOLTAGE	11 to 300V AC (L - N), 19 to 519V AC (L - L)		2 to 76.2V AC (L - N), 3.5 to 132V AC (L - L)	
RATED INPUT CURRENT	Nominal 5A AC (Min - 11mA ; Max - 6A)			
FREQUENCY	45Hz to 65Hz			
RESOLUTION	For Energy : 0.01k, 0.1k, 1k, 0.01M, 0.1M, 1M (Depending upon CT ratio x PT ratio), For Power, Voltage, Current : Auto resolution, For Power Factor : 0.01, Frequency : 0.1Hz			
ACCURACY CLASS	Voltage (L - L / L - N), Current : ±0.5% Power Factor : ±0.01 of full range, Frequency : ±0.1% of full range Power (kW, kVA, kVAR) : 1% of full range Energy (Active, Reactive, Apparent) : 1% of full range		Voltage & Current : ±0.5% of range, Frequency : ±0.15% of mid frequency Power (Active, Reactive, Apparent) : ±0.5% of full range Energy (Active, Reactive, Apparent) : ±0.5% Power Factor : ±0.5% of unity.	
CT PRIMARY	1 / 5A to 10kA (Programmable for any value)			
CT SECONDARY	1 / 5A (Programmable)			
PT PRIMARY	100V to 500kV (Programmable for any value)		80V to 500kV (Programmable for any value)	
PT SECONDARY	100V to 500V AC (L - L) (Programmable for any value)		80V to 140V AC (L - L) (Programmable for any value)	
MEMORY RETENTION FOR ENERGY	10 years			
COMMUNICATION	RS485 Communication MODBUS RTU Protocol (Optional)			
INDICATIONS	LCD : Max Demand of Power, Communication in progress ; LED : Integration of Energy.			
MEASURING PARAMETER	Voltage (L - L / L - N) (Individual / Average), Current (Individual / Average), Frequency, Power Factor (Individual / Total), Active, Reactive & Apparent power (Individual / Total), Active, Reactive & Apparent Energy (Import / Export), Demand (Min / Max Active & Reactive Power, Max Apparent Power)			
SUPPLY VOLTAGE	85 to 270V AC, 50/60Hz		DC - 30 to 60V ; AC - 18 to 36V, 50/60Hz	

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	COMM	CERTIFICATION
MFM384-R-C	85 to 270V AC	YES	---
MFM384-R-C-CE		YES	CE
MFM384-R-C-48V DC	DC : 30 to 60V AC : 18 to 36V	YES	---



MRJ4M
Size : 90 x 70mm



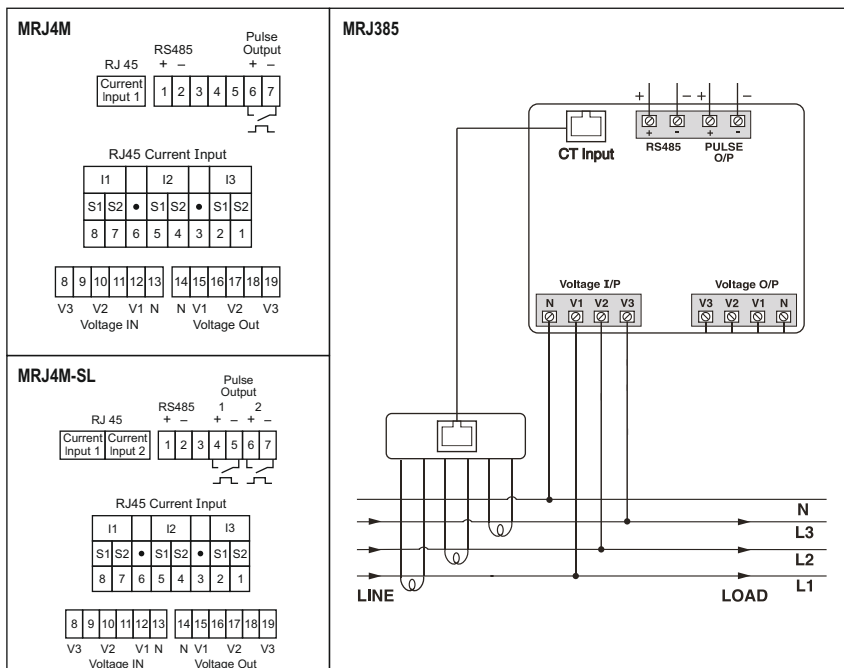
MRJ4M-SL
Size : 90 x 70mm



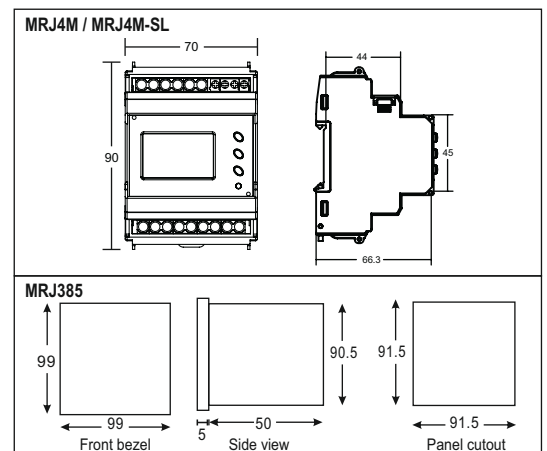
MRJ385
Size : 96 x 96mm

FEATURES	- Energy (Active, Reactive) - RJ45 Connector current input - Single Pulse Output - Max Demand of Power - Self powered	- Energy (Active, Reactive) - RJ45 Connector current input 2 Pulse Outputs - Max Demand of Power - Self powered	- Energy (Active, Reactive, Apparent) - Split load, RJ45 for current input - Single Pulse Output - Max / Min Demand of Power - Self Powered - THD upto 31st Level
DISPLAY	LCD with backlight		
DIGITS	2 rows of 4 digits, 1 row of 7 digits to show electrical parameters		4 rows of 4 digits, Bargraph representation for current, 1 row of 8 digits for energy display
ELECTRICAL CONNECTION	3Ø - 4W, 1Ø - 2W		
RATED INPUT VOLTAGE	60 to 300V AC (L - N), 104 to 520V AC (L - L)		100 to 240V AC (L - N), 173 to 415V AC (L - L)
RESOLUTION	For Energy : 0.01K, 0.1K, 1K, 0.01M, 0.1M, 1M (depending upon CT ratio x PT ratio) For Power, Voltage, Current : Auto resolution For Power Factor : 0.01		
CT PRIMARY	5A to 10kA (Programmable for any value)		
CT SECONDARY	330mV		
PT PRIMARY	100V to 10kV (Programmable for any value)		100V to 500kV (Programmable for any value)
PT SECONDARY	100 to 500V AC (L - L) (Programmable for any value)		173 to 415V AC (L - L) (Programmable for any value)
COMMUNICATION	RS485 Communication MODBUS RTU Protocol		
INDICATIONS	LCD : Max demand of power, communication in progress ; LED : Integration of energy		LCD : Max / Min demand of power, communication in progress ; Integration of energy, Unit in Configuration Menu
MEASURING PARAMETER	Voltage (L - L / L - N) (Individual / Average), Current (Individual / Average), Frequency, Power factor (Individual / Average), Active, Reactive, Apparent power (Individual / Total), Active & Reactive Energy, Demand (Max Active Power, Max Apparent Power)	Voltage (L - L / L - N) (Individual / Average), Current (Individual), Frequency, Power factor (Individual / Average), Active, Reactive, Apparent power (Individual / Total), Active & Reactive Energy, Total Active & Reactive Energy (Current input-1 plus current input-2), Demand (Max Active Power, Max Apparent Power)	Voltage (L - L / L - N) (Individual / Average), Current (Individual / Average), Frequency, Power factor (Individual / Average), Active, Reactive, Apparent power (Individual / Total), Active, Reactive, Apparent Energy (Phase wise (Import / Export) & Total (Import / Export)), Demand (Min / Max Active Power, Min / Max Reactive Power, Max Apparent Power), Harmonics individual for voltage & Current upto 31 st level.
SUPPLY VOLTAGE	60 to 300V AC 50 / 60Hz, Self Supplied (V1, N)		

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	OUTPUT		CERTIFICATION
	PULSE OUTPUT	COMM (RS485)	
MRJ4M	YES	YES	CE
MRJ4M-SL	YES	YES	CE
MRJ385-G-PNW	YES	YES	CE



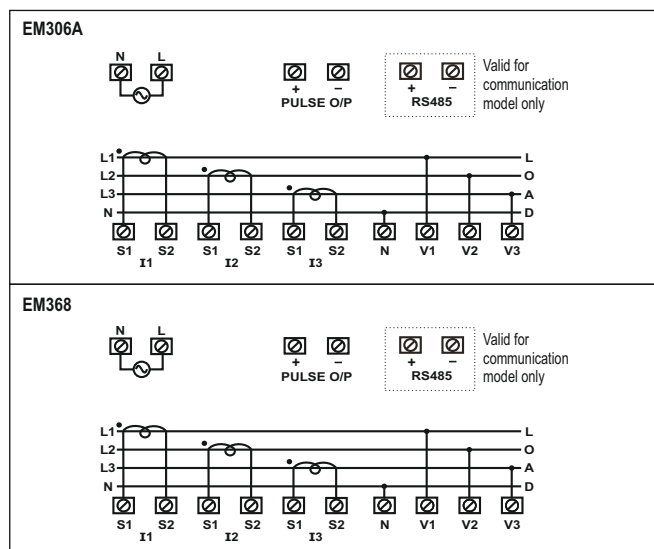
EM306A
Size : 96 x 96mm



EM368
Size : 96 x 96mm

FEATURES	- Pulse Output for Energy - Active Energy	- Pulse Output for Energy - Power (Active / Reactive) - Energy (Active / Reactive / Apparent)
DISPLAY	7 segment LED	LCD with Backlight
DIGITS	6 digits	8 digits
ELECTRICAL CONNECTION	3Ø - 4W, 3Ø - 3W, 2Ø - 3W, 1Ø - 2W	
RATED INPUT VOLTAGE	11 to 300V AC (L - N), 19 to 519V AC (L - L)	
RATED INPUT CURRENT	Nominal 5A AC (Min - 11mA ; Max - 6A)	
RESOLUTION	0.01K, 0.1K, 1K & 10K (depending on CT ratio)	For energy : 0.01k, 0.1k, 1k, 0.01M, 0.1M, 1M, 10M (depending upon CT ratio x PT ratio) For Power : Auto resolution, For Power factor : 0.01
ACCURACY	Class 1	Active Energy : Class 1, Reactive / Apparent Energy : ±1% Active / Reactive power : ±1%, PF & Avg. PF : ±1%
POWER CONSUMPTION	8VA Max	
CT PRIMARY	1 / 5A to 10kA (Programmable for any value)	
CT SECONDARY	1 / 5A (Programmable)	
PT PRIMARY	--	100V to 500kV (Programmable for any value)
PT SECONDARY	--	100V to 500V AC (L - L) (Programmable for any value)
COMMUNICATION	RS485 Communication MODBUS RTU Protocol (For EM306A-C)	RS485 Communication MODBUS RTU Protocol (For EM368-C)
MEASURING PARAMETER	Active Energy (kWh) Resettable	Power (Total Active / Reactive), Energy (Total Active / Reactive / Apparent), Power factor (Individual & Average)
LED INDICATIONS	Integration of energy, Resolution is 10, Reverse connected CT warning	Integration of energy, Resolution is 10, Reverse connected CT warning, Communication in progress, pulse output (All Indications on LCD)
SUPPLY VOLTAGE	230V AC ±20% (50/60Hz) For EM306A 100V to 240V AC, -15% to +12% (50/60Hz) For EM306A-C	100 to 240V AC, -15% to +12%, 50/60Hz

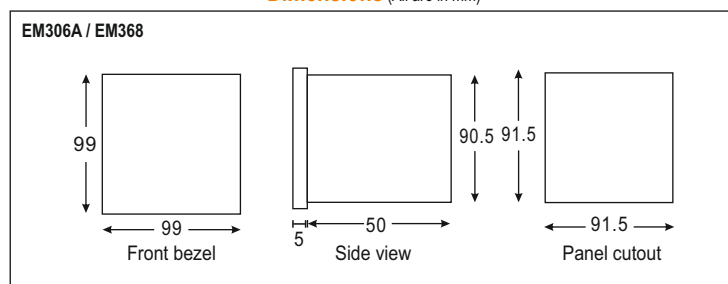
Terminal Connections



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	OUTPUT		CERTIFICATION
		PULSE OUTPUT	COMM. (RS485)	
EM368-CU	100 to 240V AC, -15% to +12%	YES	---	CE
EM368-C-CU		YES	YES	CE
EM306A	230V AC, ±20%	YES	---	---
EM306A - C	100V to 240V AC, -15% to +12%	YES	YES	---

Dimensions (All are in mm)





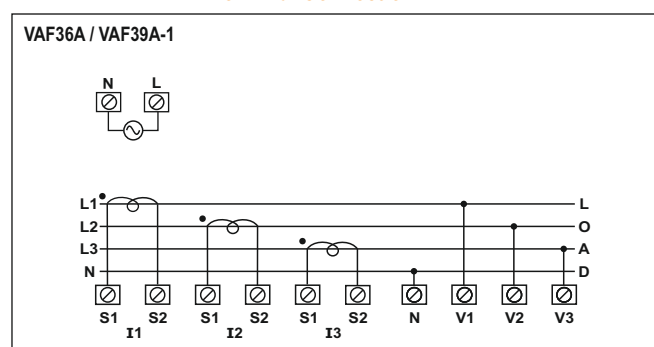
VAF36A
Size : 96 x 96mm



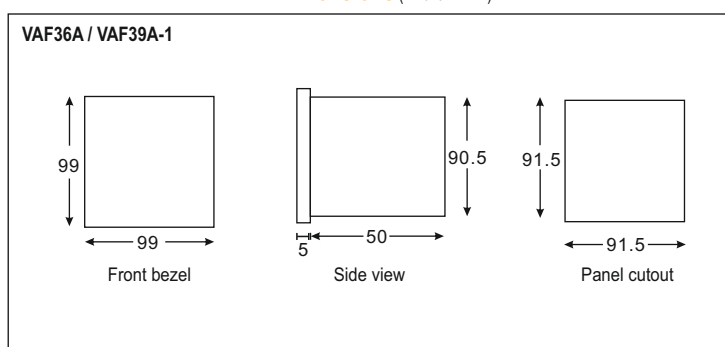
VAF39A-1
Size : 96 x 96mm

FEATURES	• 3Ø (True RMS) Voltage & Current • Frequency • Run Hour (Hour - Mins) • RPM • Analog Style Bargraph Indication	• 3Ø (True RMS) Voltage & Current • Frequency • Run Hour (Hour - Mins) • RPM • Programmable CT Secondary
DISPLAY	LCD (with Backlight)	7 segment LED integrated with parameter units
DIGITS	3 rows of 3 digits	
ELECTRICAL CONNECTION	3Ø - 4W, 3Ø - 3W, 2Ø - 3W, 1Ø - 2W	
RATED INPUT VOLTAGE	11 to 300V AC (L - N), 19 to 519V AC (L - L)	
RATED INPUT CURRENT	Nominal 5A (Min - 20mA ; Max - 6A)	Nominal 5A (Min - 30mA ; Max - 6A)
RESOLUTION	Current & Voltage : Depending on CT & PT primary setting, RPM : 0.1, Run Hour : 0.1hr	
ACCURACY	Voltage(L - N / L - L / Average) : $\pm 0.5\%$ of F.S. ± 2 digits, Current & Average Current : $\pm 1\%$ of F.S. ± 2 digits, Run Hour : $\pm 1\%$, RPM : $\pm 0.5\%$, Frequency : ± 0.1 Hz ± 1 digit	
CT PRIMARY	5A to 10kA (Programmable for any value)	
CT SECONDARY	5A fixed	1 or 5A (Programmable)
PT PRIMARY	100V to 500kV (Programmable for any value)	
PT SECONDARY	100 to 500V AC (L - L) (Programmable for any value)	
MEASURING PARAMETER	Voltage (L - N / L - L) (Individual / Average), Current (Individual / Average), Frequency, RPM, Run Hour	
SUPPLY VOLTAGE	230V AC $\pm 20\%$ (50/60 Hz)	230V AC $\pm 20\%$ (50/60 Hz)

Terminal Connection



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
VAF36A-230-CE	230V AC	CE
VAF36A-230V-CU	230V AC	CE
VAF39A-1-230V	230V AC	---
VAF39A-1-60V DC	20-60V DC	---



MV15
Size : 48 x 96mm



MV205
Size : 72 x 72mm



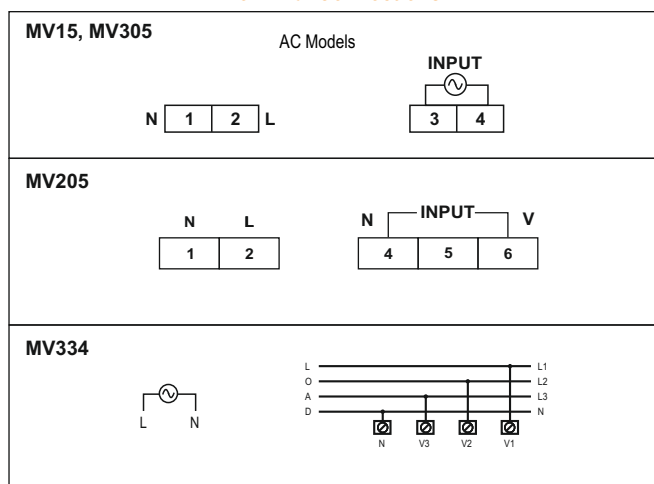
MV305
Size : 96 x 96mm



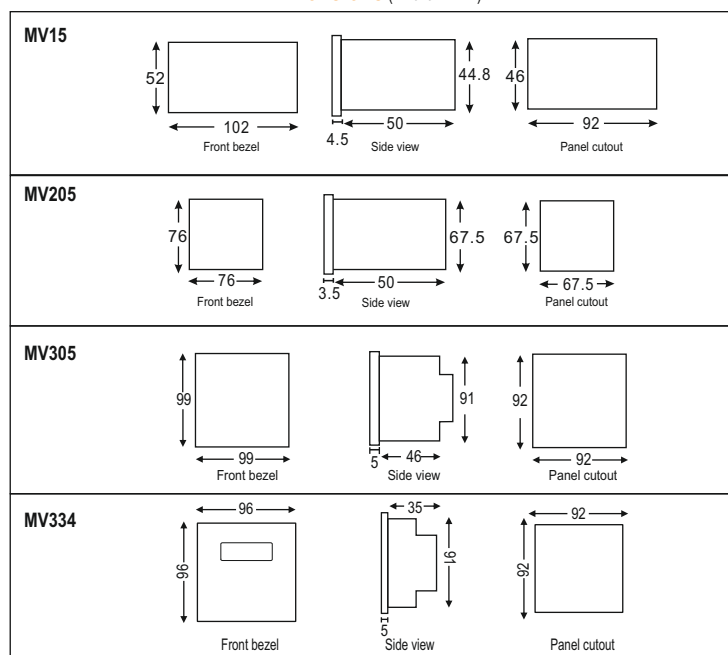
MV334-230V
Size : 96 x 96mm

FEATURES	• True RMS Measurement • 1Ø - 2W Electrical Network	• True RMS Measurement • 1Ø - 2W Electrical Network	• True RMS Measurement • 1Ø - 2W Electrical Network	• True RMS Measurement • 3Ø - 4W, 3Ø - 3W, 1Ø - 2W Electrical Network • K LED for Kilo Indication
DISPLAY	7 segment LED			
DIGITS	3 digits	3 digits	3 digits	4 digits
ELECTRICAL CONNECTION	1Ø - 2W			3Ø - 4W, 3Ø - 3W, 1Ø - 2W
RATED INPUT VOLTAGE	50 to 480V AC (516V Max)	50 to 480V AC (516V Max)	50 to 480V AC (516V Max)	11 to 300V AC (L - N) 19 to 516V AC (L - L)
RESOLUTION	1V	1V	1V	Auto Resolution
ACCURACY	± 0.5% of full scale over rated operating condition			± 0.5% of full range
PT PRIMARY	--			100V - 999kV
PT SECONDARY	--			100V - 500V
SUPPLY VOLTAGE	240V AC ±20% (50/60Hz)			230V AC ±20% (50/60Hz)

Terminal Connections



Dimensions (All are in mm)



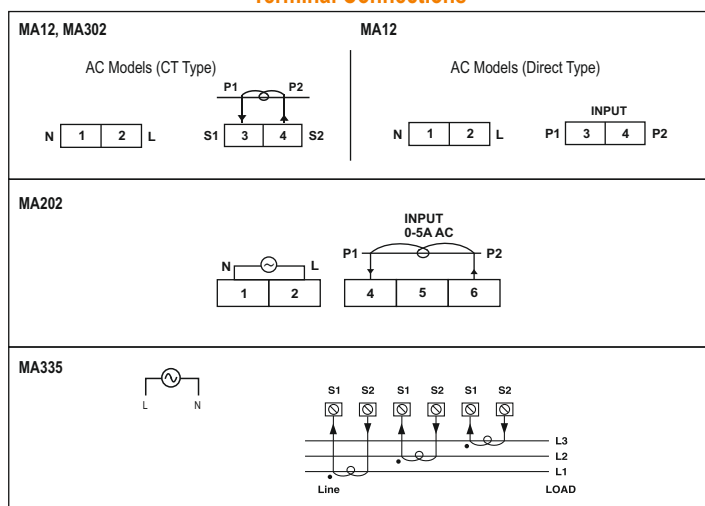
Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
	230V AC	
MV15	YES	---
MV15-CU	YES	CE LISTED
MV15-230V-CE	YES	CE
MV205	YES	---
MV205-CE	YES	CE
MV205-CU	YES	CE LISTED
MV305	YES	---
MV305-CE	YES	CE
MV334-230V	YES	---
MV334-230V-CE	YES	CE

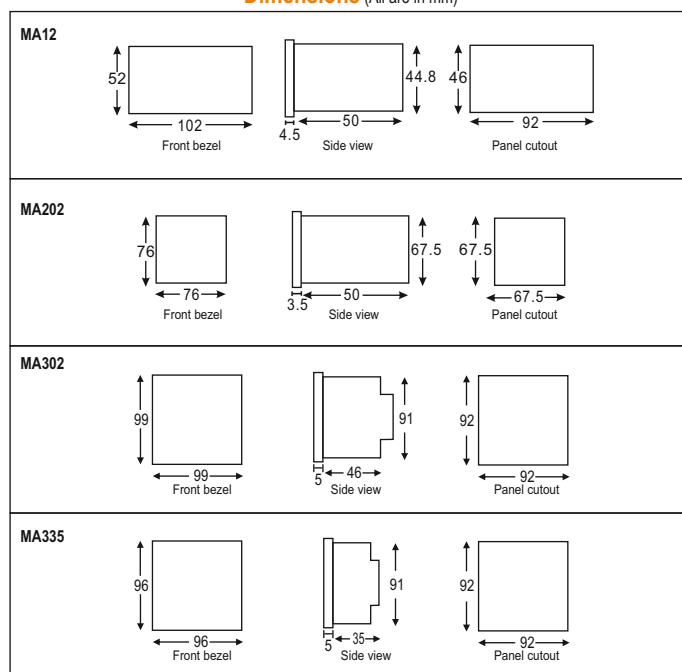


FEATURES	• True RMS Measurement • 1Ø - 2W Electrical Network • CT Primary ProgrammableUpto 4000A	• True RMS Measurement • 1Ø - 2W Electrical Network	• True RMS Measurement • K LED for Kilo Indication • Programmable CT Primary & Secondary	
DISPLAY	7 segment LED			
DIGITS	4 digits			
ELECTRICAL CONNECTION	1Ø - 2W			3Ø - 4W, 3Ø - 3W, 1Ø - 2W
INPUT TYPE	CT	Shunt	Direct	CT
RATED INPUT CURRENT	5AAC (Min - 50mA ; Max - 6.2A)	0 to 75mV DC	20A Direct	5AAC (Min - 50mA ; Max - 6.2A)
RESOLUTION	0.001, 0.01, 0.1, 1A (depending upon CT primary settings)	0.001, 0.01, 0.1, 1A (depending upon shunt settings)	0.001, 0.01, 0.1, 1A	Auto resolution depend upon CT ratio
ACCURACY	± 0.5% of full scale			
CT PRIMARY / SHUNT SETTING	5 to 4000A (Programmable in steps)	5 to 4000A (Programmable in steps)	---	1 to 999.0kA (Programmable for any value)
CT SECONDARY	5A Fixed	---		1 / 5A (Programmable)
SUPPLY VOLTAGE	240V AC ±20% (50/60Hz)			230V AC ±20% (50/60Hz)

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
	230V AC	
MA12	YES	---
MA12-CE	YES	CE
MA12-CU	YES	CE, UL
MA12-20A-AC	YES	---
MA12-75mV-DC	YES	---
MA202	YES	---

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
	230V AC	
MA202-CE	YES	CE
MA202-CU	YES	CE, UL
MA302	YES	---
MA302-CE	YES	CE
MA335-230V AC	YES	---
MA335-230V AC-CE	YES	CE

Ammeters - Digital

Voltmeters - Digital



MA501
Size : 48 x 48mm



MA2301
Size : 72 x 72mm



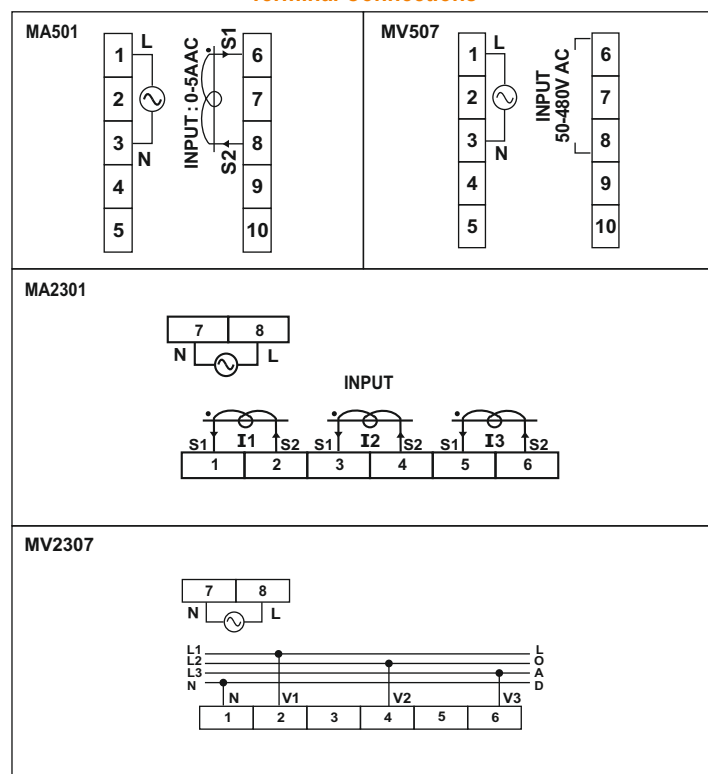
MV507
Size : 48 x 48mm



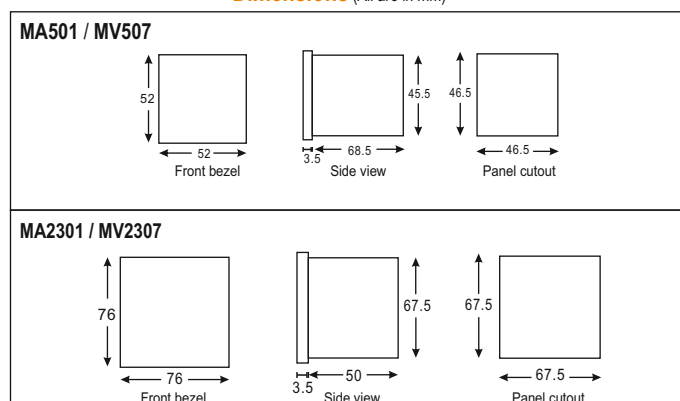
MV2307
Size : 72 x 72mm

FEATURES	• True RMS Measurement • 1Ø - 2W Electrical Network • Analog Style Bargraph Indication • CT Primary Programmable Upto 5000A	• True RMS Measurement • 3Ø - 4W Electrical Network • Analog Style Bargraph Indication • CT Primary Programmable Upto 5000A • Page Selection Using Selector Switch	• True RMS Measurement • 1Ø - 2W Electrical Network • Analog Style Bargraph Indication	• True RMS Measurement • 3Ø - 4W, 3Ø - 3W Electrical Network • Analog Style Bargraph Indication • Page Selection using Selector Switch
DISPLAY	LCD (with analog style bargraph indication)			
DIGITS	4 Digits		3 Digits	
ELECTRICAL CONNECTION	1Ø - 2W	3Ø - 4W	1Ø - 2W	3Ø - 4W, 3Ø - 3W
RATED INPUT VOLTAGE	--		50 to 480V AC (max : 516V)	
RATED INPUT CURRENT	5A AC (Min - 50mA ; Max - 6.2A)		--	
RESOLUTION	0.001, 0.01, 0.1, 1A (Depending on CT primary settings)		1V	
ACCURACY	± 0.5% of F.S.		± 0.5% of F.S. Over rated operating condition	
CT PRIMARY	5 to 5000A (Programmable in steps)		--	
CT SECONDARY	5A Fixed		--	
SUPPLY VOLTAGE	240V AC ±20% (50/60Hz)			

Terminal Connections



Dimensions (All are in mm)



Ordering Information

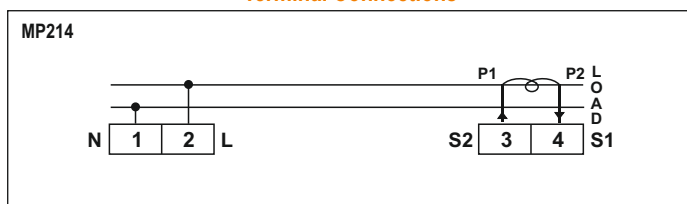
PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
	230V AC	
MA501-230V-CE	YES	CE
MA501-CU	YES	CE
MA2301-230V-CE	YES	CE
MA2301-CU	YES	CE
MV507	YES	---
MV507-230V-CE	YES	CE
MV507-CU	YES	CE
MV2307	YES	---
MV2307-230V-CE	YES	CE
MV2307-CU	YES	CE



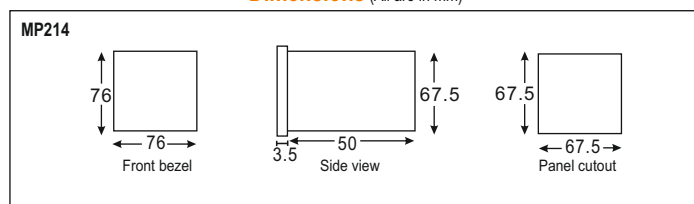
MP214
Size : 72 x 72mm

FEATURES	• 4 digits 7 segment LED Display • 0.01 Resolution
DISPLAY	7 segment LED
DIGITS	4 digits
ELECTRICAL CONNECTION	1Ø - 2W
RESOLUTION	0.001
ACCURACY	$\pm 0.5\% \pm 1$ digit
MEASUREMENT RANGE	0.250 - 6A (AC)
SUPPLY VOLTAGE	240V AC $\pm 20\%$ (50/60Hz)

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
	240V AC	
MP214	YES	---

Ammeter - Analog



AM - I

Size : 72 x 72mm / 96 x 96mm

Voltmeter - Analog



AM - V

Size : 72 x 72mm / 96 x 96mm

FEATURES	• Non Linear Scale • Knife Edge Pointer • Black Lexan / Polycarbonate Housing • Easy Installation / Termination	
MEASURING PARAMETER	AC Current	AC Voltage
POINTER DEFLECTION	0 to 90°	
SCALE CHARACTERISTICS	Near Linear above 10% of Nominal full scale value	
SCALE LENGTH	72 x 72mm : 63 mm / 96 x 96mm : 97 mm	
MEASURING VOLTAGE RANGE	--	0 to 300V & 0 to 500V
MEASURING CURRENT RANGE	0 to 5A (CT Secondary) , Suppress scale : 0 to 5 / 30A (CT Secondary)	--
ACCURACY	Class 1.5	
FREQUENCY	45 to 65Hz	

Ordering Information

Meters Without Dial Plates

PRODUCT CODE	CERTIFICATION
AM-I-2-5A-WD	CE
AM-I-2-5A-6S-WD	CE
AM-I-3-5A-WD	CE
AM-I-3-5A-6S-WD	CE

AM - I - 2 - 5A - 6S - WD
 (Without Dial Plate)
 (6 times suppressed)
 (Display Scale)
 (Size) 2 : 72 x 72mm, 3 : 96 x 96mm
 (Series) Ammeter
 (Category) Analog Meter

Dimensions (All are in mm)

AM - I / AM - V		Optional parts : 1. Back cover	
Product	72x72	96x96	
Dimensions (in mm)			
a	72	96	
b	74.50	98.50	
c	67	90.50	
d	50	50	
e	60	60	
f	5.50	5.50	
g	8	8	
h	68	92	

Ordering Information

Meters With Dial Plates

PRODUCT CODE	CERTIFICATION
AM-I-2-X/5A	CE
AM-I-3-X/5A	CE

Only Scale Dial Plates

PRODUCT CODE	CERTIFICATION
SCL-AM-I-2-X/5A	CE
SCL-AM-I-3-X/5A	CE
SCL-AM-I-2-X/5A-6S	CE
SCL-AM-I-3-X/5A-6S	CE

Meters Without Dial Plates

PRODUCT CODE	CERTIFICATION
AM-V-2-N	CE
AM-V-3-N	CE
AM-V-2-L	CE
AM-V-3-L	CE
AM-V-2-600V	CE
AM-V-3-600V	CE

SCL - AM - I - 2 - X / 5A - 6S (6 times suppressed) (Display Scale) X : 30A to 4000A (Size) 2 : 72 x 72mm, 3 : 96 x 96mm (Series) Ammeter (Category) Analog Meter (Product Name) Scale Plate

AM - V - 2 - N (Input Voltage) N : 300V ; L : 500V ; 600V (Size) 2 : 72 x 72mm, 3 : 96 x 96mm (Series) Voltmeter (Product Name) Analog Meter

Terminal Connections

AM - I L1 3 8 N(L2) AC Current (CT connection)	
AM - V L1 3 8 N(L2) AC Voltage(Direct connection)	



SPCT



RCT



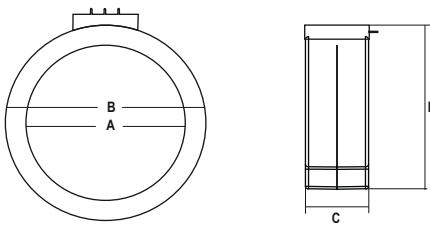
TWCT

FEATURES	- Use with different Bus Bar Size - Panel Mount / Din Rail Mount (Require optional accessory) - Accuracy : Class 0.5 to 5	- Sealable Terminal / Wire type Output - Panel Mount - Accuracy : Class 1 to 5	- Terminal Output - Accuracy : Class 0.5 to 5
RATED PRIMARY RATING	30 to 4000A	30 to 600A	30 to 1600A
RATED SECONDARY OUTPUT	5A		
RATED BURDEN	1 to 15VA	1.5 to 5VA	1.5 to 10VA
ACCURACY	0.5 to 5	1 to 5	0.5 to 5
OPERATING FREQUENCY	AC 50/60Hz		
SYSTEM VOLTAGE	720V maximum		
APPLICABLE STANDARD	IEC 61869-2		

Dimensions (All are in mm)

SPCT-62/22, 62/30, 62/40	SPCT-62/40	SPCT-100/60	
SPCT-62/22	SPCT-62/30	SPCT-140/100	
RCT-T-D30	RCT-T-D50	RCT-W-D30	RCT-W-D50

Dimensions (All are in mm)

TWCT		PRODUCT	A	B	C	D
		TWCT-T-D35	35	70	45	80
		TWCT-T-D55 150/5 A	55	90	35	100
		TWCT-T-D55	55	90	25	100
		TWCT-T-D65	65	95	30	105
		TWCT-T-D110	110	35	35	145
		TWCT-T-D120	120	155	25	165

Ordering Information

SPCT

PRODUCT CODE	WIRE APERTURE In mm	CURRENT RATIO	BURDEN IN VA	ACCURACY CLASS
SPCT 62/22 30/5 A VA 1 CL 5	DIA 22	30/5	1	5
SPCT 62/30 50/5 A VA 1 CL 3	30x10	50/5	1	3
SPCT 62/30 50/5 A VA 1.5 CL 3	30x10	50/5	1.5	3
SPCT 62/30 75/5 A VA 1 CL 3	30x10	75/5	1	3
SPCT 62/30 75/5 A VA 3 CL 3	30x10	75/5	3	3
SPCT 62/30 100/5 A VA 1 CL 1	30x10	100/5	1	1
SPCT 62/30 100/5 A VA 3 CL 1	30x10	100/5	3	1
SPCT 62/40 100/5 A VA 1 CL 1	40x10	100/5	1	1
SPCT 62/40 125/5 A VA 1 CL 1	40x10	125/5	1	1
SPCT 62/40 150/5 A VA 1.5 CL 1	40x10	150/5	1.5	1
SPCT 62/40 150/5 A VA 3 CL 1	40x10	150/5	3	1
SPCT 62/40 160/5 A VA 1.5 CL 1	40x10	160/5	1.5	1
SPCT 62/40 200/5 A VA 2.5 CL 0.5	40x10	200/5	2.5	0.5
SPCT 62/40 200/5 A VA 3 CL 1	40x10	200/5	3	1
SPCT 62/40 250/5 A VA 2.5 CL 0.5	40x10	250/5	2.5	0.5
SPCT 62/40 250/5 A VA 3 CL 1	40x10	250/5	3	1
SPCT 62/40 300/5 A VA 3 CL 0.5	40x10	300/5	3	0.5
SPCT 62/40 400/5 A VA 3.75 CL 0.5	40x10	400/5	3.75	0.5
SPCT 62/40 400/5 A VA 5 CL 1	40x10	400/5	5	1
SPCT 100/60 500/5 A VA 5 CL 1	60x12	500/5	5	1
SPCT 100/60 600/5 A VA 5 CL 0.5	60x12	600/5	5	0.5
SPCT 100/60 600/5 A VA 7.5 CL 1	60x12	600/5	7.5	1
SPCT 100/60 800/5 A VA 10 CL 0.5	60x12	800/5	10	0.5
SPCT 100/60 1000/5 A VA 15 CL 0.5	60x12	1000/5	15	0.5
SPCT 100/60 1200/5 A VA 15 CL 0.5	60x12	1200/5	15	0.5
SPCT 140/100 800/5 A VA 15 CL 0.5	100x30	800/5	15	0.5
SPCT 140/100 1000/5 A VA 15 CL 0.5	100x30	1000/5	15	0.5
SPCT 140/100 1200/5 A VA 15 CL 0.5	100x30	1200/5	15	0.5
SPCT 140/100 1250/5 A VA 15 CL 0.5	100x30	1250/5	15	0.5
SPCT 140/100 1500/5 A VA 15 CL 0.5	100x30	1500/5	15	0.5
SPCT 140/100 1600/5 A VA 15 CL 0.5	100x30	1600/5	15	0.5
SPCT 140/100 2000/5 A VA 15 CL 0.5	100x30	2000/5	15	0.5
SPCT 140/100 2500/5 A VA 15 CL 0.5	100x30	2500/5	15	0.5
SPCT 140/100 3000/5 A VA 15 CL 0.5	100x30	3000/5	15	0.5
SPCT 140/100 3500/5 A VA 15 CL 0.5	100x30	3500/5	15	0.5
SPCT 140/100 4000/5 A VA 15 CL 0.5	100x30	4000/5	15	0.5

RCT

PRODUCT CODE	WIRE APERTURE In mm	CURRENT RATIO	BURDEN IN VA	ACCURACY CLASS	NO OF PRIMARY TURNS
RCT-T-D30-30/5 A VA 1.5 CL5	DIA 30	30/5	1.5	5	---
RCT-T-D30-30/5 A VA 5 (2T) CL5	DIA 30	30/5	5	5	2
RCT-T-D30-50/5 A VA 5 CL5	DIA 30	50/5	5	5	---
RCT-T-D30-75/5 A VA 5 CL5	DIA 30	75/5	5	5	---
RCT-T-D30-100/5 A VA 5 CL1	DIA 30	100/5	5	1	---
RCT-T-D30-150/5 A VA 5 CL1	DIA 30	150/5	5	1	---
RCT-T-D50-200/5 A VA 5 CL1	DIA 50	200/5	5	1	---
RCT-T-D50-250/5 A VA 5 CL1	DIA 50	250/5	5	1	---
RCT-T-D50-300/5 A VA 5 CL1	DIA 50	300/5	5	1	---
RCT-T-D50-400/5 A VA 5 CL1	DIA 50	400/5	5	1	---
RCT-T-D50-500/5 A VA 5 CL1	DIA 50	500/5	5	1	---
RCT-T-D50-600/5 A VA 5 CL1	DIA 50	600/5	5	1	---
RCT-W-D30-30/5 A VA 1.5 CL5	DIA 30	30/5	1.5	5	---
RCT-W-D30-30/5 A VA 5 (2T) CL5	DIA 30	30/5	5	5	2
RCT-W-D30-50/5 A VA 5 CL5	DIA 30	50/5	5	5	---
RCT-W-D30-75/5 A VA 5 CL5	DIA 30	75/5	5	5	---
RCT-W-D30-100/5 A VA 5 CL1	DIA 30	100/5	5	1	---
RCT-W-D30-150/5 A VA 5 CL1	DIA 30	150/5	5	1	---
RCT-W-D50-200/5 A VA 5 CL1	DIA 50	200/5	5	1	---
RCT-W-D50-250/5 A VA 5 CL1	DIA 50	250/5	5	1	---
RCT-W-D50-300/5 A VA 5 CL1	DIA 50	300/5	5	1	---
RCT-W-D50-400/5 A VA 5 CL1	DIA 50	400/5	5	1	---
RCT-W-D50-500/5 A VA 5 CL1	DIA 50	500/5	5	1	---
RCT-W-D50-600/5 A VA 5 CL1	DIA 50	600/5	5	1	---

TWCT

PRODUCT CODE	WIRE APERTURE In mm	CURRENT RATIO	BURDEN IN VA	ACCURACY CLASS
TWCT-T-D35 30/5 A VA 1.5 CL 5	DIA 35	30/5	1.5	5
TWCT-T-D35 50/5 A VA 5 CL 5	DIA 35	50/5	5	5
TWCT-T-D35 75/5 A VA 5 CL 5	DIA 35	75/5	5	5
TWCT-T-D35 100/5 A VA 5 CL 1	DIA 35	100/5	5	1
TWCT-T-D35 150/5 A VA 5 CL 1	DIA 35	150/5	5	1
TWCT-T-D55 150/5 A VA 5 CL 1	DIA 55	150/5	5	1
TWCT-T-D55 200/5 A VA 5 CL 1	DIA 55	200/5	5	1
TWCT-T-D55 250/5 A VA 5 CL 1	DIA 55	250/5	5	1
TWCT-T-D55 300/5 A VA 5 CL 1	DIA 55	300/5	5	1
TWCT-T-D55 400/5 A VA 5 CL 1	DIA 55	400/5	5	1
TWCT-T-D65 500/5 A VA 5 CL 1	DIA 65	500/5	5	1
TWCT-T-D65 600/5 A VA 5 CL 1	DIA 65	600/5	5	1
TWCT-T-D110 800/5 A VA 10 CL 0.5	DIA 110	800/5	10	0.5
TWCT-T-D110 1000/5 A VA 10 CL 0.5	DIA 110	1000/5	10	0.5
TWCT-T-D120 1000/5 A VA 10 CL 0.5	DIA 120	1000/5	10	0.5
TWCT-T-D120 1200/5 A VA 10 CL 0.5	DIA 120	1200/5	10	0.5
TWCT-T-D120 1600/5 A VA 10 CL 0.5	DIA 120	1600/5	10	0.5



APFC148 : With 3 CT sensing
Size : 144 x 144mm



APFC147 : With 1 CT sensing
Size : 144 x 144mm



APFC347 : With 1 CT sensing
Size : 96 x 96mm

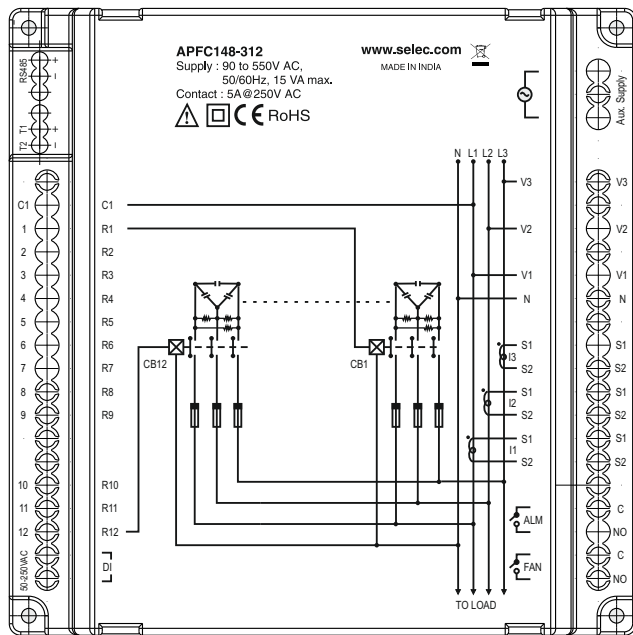
FEATURES	• Auto Detection of Capacitor Bank Values • With Built In VAF Meter • Dual Colour Backlight for Alarm Indication • Configurable Alarm Settings • Dual Password Protection • RS485 Communication MODBUS RTU Protocol *(Only for 12 stage variant)	• Auto Detection of Capacitor Bank Values • Configurable Alarm Settings • Dual Password Protection	• Auto Detection of Capacitor Bank Values • Configurable Alarm Settings • Dual Password Protection
DISPLAY	LCD with Dual Colour Backlight	7 segment LED	
DIGITS	3 Rows, 4 Digits to show electrical parameters	1 Row, 4 Digits to show Power Factor	
ELECTRICAL CONNECTION	3Ø - 4W, 3Ø - 3W, 2Ø - 2W, 1Ø - 2W	2Ø - 2W, 1Ø - 2W	
RATED INPUT VOLTAGE	11 to 300V AC (L - N), 50 to 520V AC (L - L)	40 to 300V AC (L - N), 50 to 520V AC (L - L)	
RATED INPUT CURRENT	Nominal 5A AC (Min - 11mA ; Max - 6A)	Nominal 5A AC (Min - 50mA ; Max - 6A)	
POWER CONSUMPTION	15VA max		7VA max.
FREQUENCY	45 to 65Hz		
MEASUREMENT RANGE	Power Factor : 0.8 Lag to 0.8 Lead		
ALARM SETTINGS	Over / Under Voltage, Over / Under Compensation, CT Polarity Error, THDI error, Step Error, Over Temperature, Fan Setting, No voltage	Over / Under Voltage, Over / Under Compensation, CT Polarity Error, Current Absent Indication	
PHASE COMPENSATION	0°, 90°, 120°, 210°, 240°, 330°		
ACCURACY	Power Factor : ± 0.01, Voltage (L - N / L - L), Current : ±0.5% of full scale, Frequency : For L - N >20V, For L - L >35V : ±0.1% of full scale, Power (kW, kVA, kVA _r) : 1%, Energy (kWh, kVAh, kVA _{rh}) : Class 1 Temperature : ±3°C of full scale	Power Factor : ±0.01	
CT PRIMARY	1 / 5A to 9999A (Programmable for any value)		
CT SECONDARY	1 / 5 A (Programmable)		
PT PRIMARY	100V to 500kV (Programmable for any value)	--	
PT SECONDARY	100 to 500V (Programmable for any value)	--	
STEPS	1 to 12 / 14* *(FAN & ALARM output can be used as 13 th & 14 th step)	3 to 8	
RELAY CONTACT	5A @ 250V AC		
SWITCHING PROGRAM	Automatic / Linear / Rotational		
STEP TIME	1 to 999s		
DISCHARGE TIME	1 to 9999s	1 to 999s	
CONTROL MODE	Automatic / Manual		
CONTROL SENSITIVITY	55 to 100%		
AUTO INITIALIZATION	Yes / No		
COMMUNICATION	RS485 Communication MODBUS RTU Protocol *(Only for 12 stage variant)	--	
SUPPLY VOLTAGE	90 to 550V AC, 50/60Hz		85 to 270V AC, 50/60Hz

Ordering Information

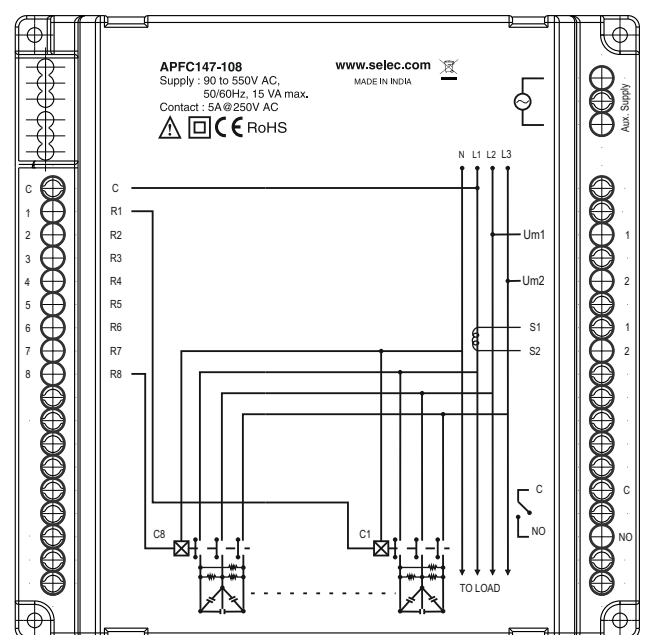
PRODUCT CODE	SUPPLY VOLTAGE	OUTPUT		CERTIFICATION
		STEPS	COMM. (RS485)	
APFC148-312-90/550V-CE-RoHS	90 to 550V AC, 50 / 60Hz	12	Yes	CE
APFC147-108-90/550V-CE-RoHS	90 to 550V AC, 50 / 60Hz	8	---	CE
APFC347-108-230V-CE-RoHS	85 to 270V AC, 50 / 60Hz	8	---	CE

Terminal Connections

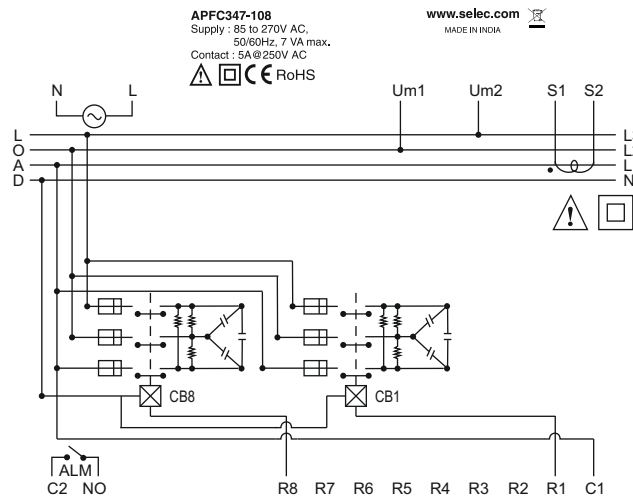
APFC148 : With 3 CT sensing



APFC147: With 1 CT sensing

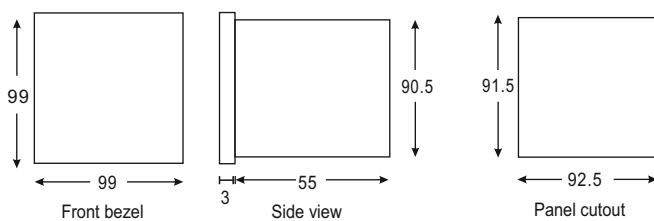


APFC347: With 1 CT sensing

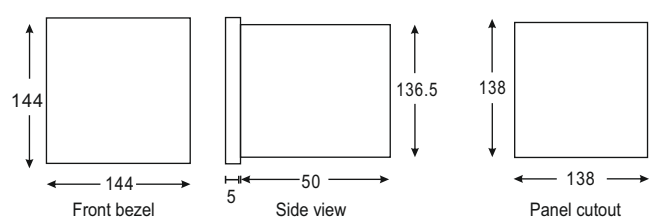


Dimensions (All are in mm)

APFC347



APFC148 & APFC147





Types : Analog / Digital Protection Relays

- Line Monitoring Relay
 - Phase Sequence Relay
 - Voltage Protection Relay
- Current Protection Relay
- Earth Leakage Relay
- Earth Fault Relay
- Motor Protection Relay
- Water Level Controller

Applicable EMI / EMC Standards

Product Standard :

Products	Electromagnetic Compatibility
Phase Sequence	IEC61326-1
Analog Voltage Protection	IEC61326-1
Digital Voltage Protection	IEC60947-2
Current Protection	IEC60947-2
Earth Leakage Current	IEC60947-2
Earth Fault Relay	IEC60947-2
Water Level Controller	IEC60947-5-1

Category	Standards Compliance	
ESD Immunity	IEC 61000-4-2	Level III
Surge Immunity	IEC 61000-4-5	+/- 2 kV common mode, +/- 1 kV differential mode
Radiated Susceptibility	IEC 61000-4-3	Level III, 80 to 1000MHz Level II, 1.4GHz to 2GHz Level I, 2GHz to 2.7GHz
Conducted Susceptibility	IEC 61000-4-6	Level III
Voltage Dips and Interruptions	IEC 61000-4-11	Dips : 0% residual voltage / 1 cycle (Criteria B), 40% residual voltage / 10 cycles 50 Hz / 12 cycles 60 Hz (Criteria C) 70% residual voltage / 25 cycles 50 Hz / 30 cycles 60 Hz (Criteria C) Interruptions : 0% residual voltage / 250 cycles 50 Hz / 300 cycles 60 Hz (Criteria C)
Conducted Emission	CISPR-11	
Radiated Emission	CISPR-11	
Electrical Fast Transient	IEC 61000-4-4	Level III

Note : Above standards are applicable only for CE certified Analog & Digital Protection Relays



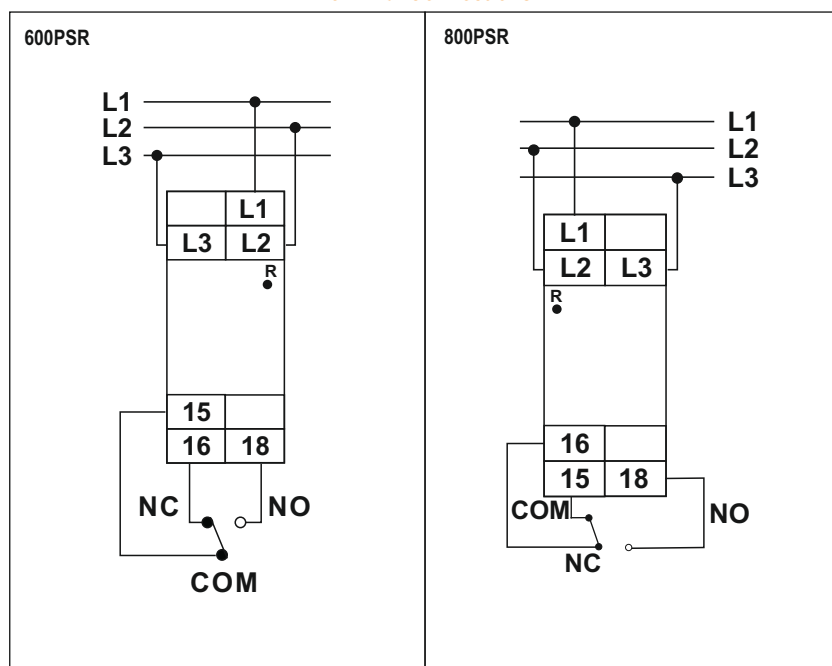
600PSR
Size : 17.5 x 90mm



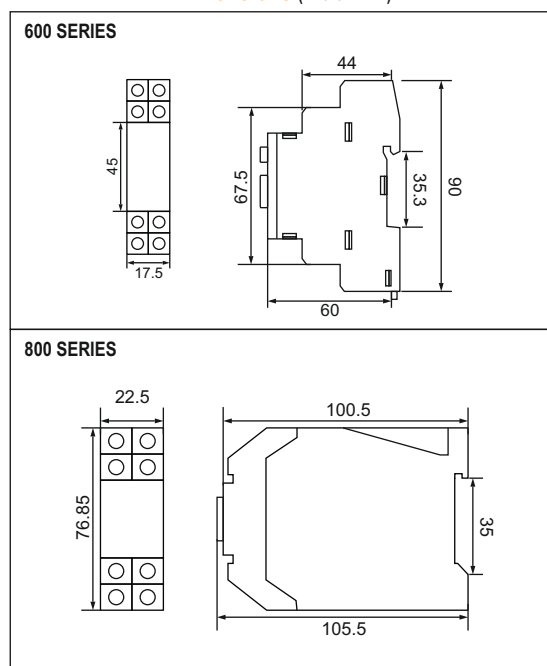
800PSR
Size : 22.5 x 76.85mm

FEATURES	• Din Rail Mount • Phase Failure • Phase Sequence • Phase Asymmetry • Slim Space Saving Design • LED Indication : Relay ON	• Din Rail Mount • Phase Failure • Phase Sequence • Phase Asymmetry • LED Indication : Relay ON
MODES	Phase Asymmetry : Yes Phase Failure Trip : 3 Phase Voltage <154V AC (L - L) Phase Asymmetry : 30V Fixed Reset : Auto Reset on removal of Fault condition	
TIME RANGES	Power On Delay : 200msec	
ACCURACY	Trip accuracy : $\pm 10V$	
OUTPUT CONTACT	1 C/O (SPDT)	
OUTPUT RATING	NC : 3A@250V AC, NO : 5A@250V AC	
ELECTRICAL CONNECTION	3Ø - 3W	
OPERATING VOLTAGE	154 to 500V AC (L - L)	

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	OPERATING RANGE	CERTIFICATION
600PSR-CE	154 to 500V AC	CE
800PSR	154 to 500V AC	—



600VPR-310/520V
Size : 17.5 x 90mm

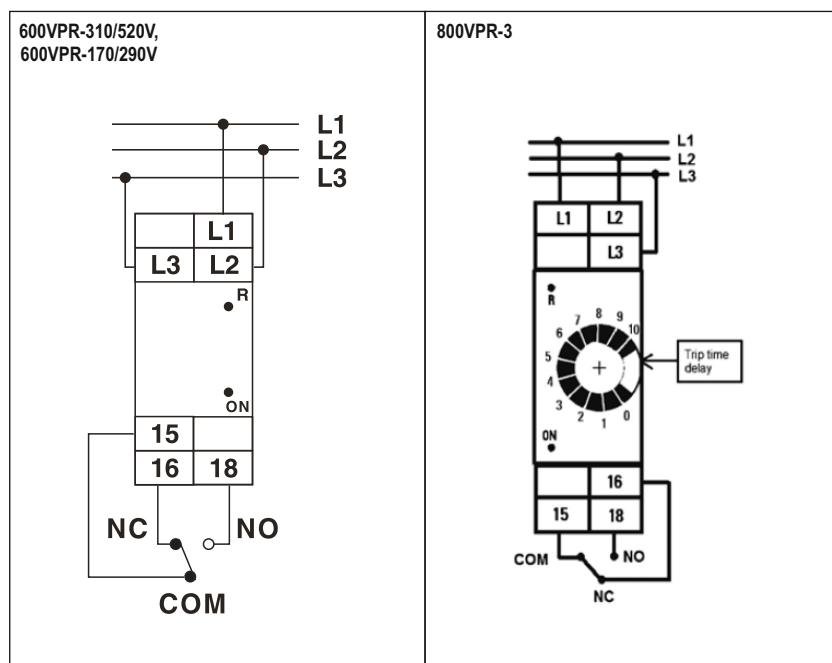
600VPR-170/290V
Size : 17.5 x 90mm



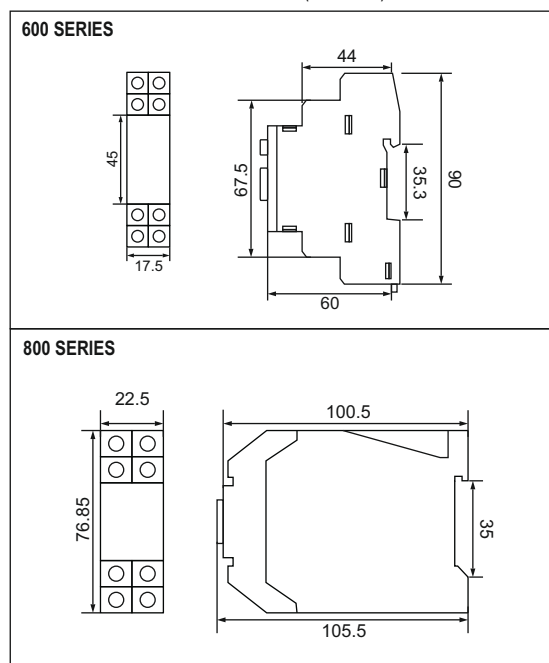
800VPR-3
Size : 22.5 x 76.85mm

FEATURES	• Din Rail Mount • Monitors Under & Over Voltage • Monitors Phase Sequence & Failure • Space Saving Design • LED Indication : Power ON, Fault Condition		• Din Rail Mount • Monitor Under & Over Voltage • Monitor Phase Sequence & Failure • LED Indication : Power ON, Fault Condition
MODES	Under Voltage : 310 to 405V AC Over Voltage : 425 to 520V AC Phase Sequence : YES Phase Failure : YES Reset : Auto Reset on removal of Fault Condition	Under Voltage : 170 to 224V AC Over Voltage : 236 to 290V AC Phase Sequence : YES Phase Failure : YES Reset : Auto Reset on removal of Fault Condition	Under Voltage : 310 to 405V AC Over Voltage : 425 to 520V AC Phase Sequence : YES Phase Failure : YES Reset : Auto Reset on removal of Fault Condition
TIME RANGES	Trip time delay : 0.2 to 10sec Power On Delay : 400msec		Trip Delay : 0 to 10s (For under voltage and over voltage) : Instantaneous (For phase failure & phase sequence)
ACCURACY	Trip Voltage : $\pm 0.5\%$ of F.S Trip Time : $\pm 5\%$ of F.S		
OUTPUT CONTACT	1 C/O (SPDT)		
OUTPUT RATING	NC: 3A@250V AC NO: 5A@250V AC		NC: 5A@250V AC, (Resistive Load) NO: 5A@250V AC
ELECTRICAL CONNECTION	3Ø - 3W		3Ø - 3W
OPERATING VOLTAGE	310 to 520V AC (L - L)	170 to 290V AC (L - L)	310 to 520V AC (L - L)

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	OPERATING RANGE	CERTIFICATION
600VPR-310/520-CE	310 to 520V AC	CE
600VPR-170/290-CU	170 to 290V AC	CE
800VPR-3	310 to 520V AC	--



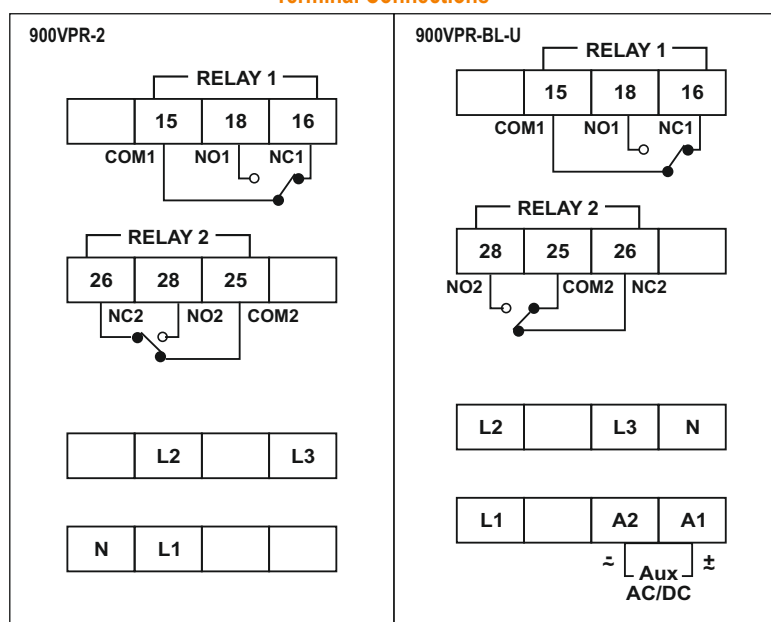
900VPR-2
Size : 35 x 90mm



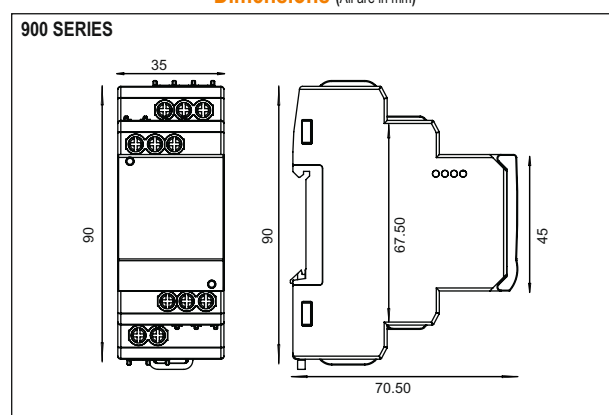
900VPR-BL-U
Size : 35 x 90mm

FEATURES	• Din Rail Mount • Monitors Under Voltage, Over Voltage, Under Frequency, Over Frequency, Phase Asymmetry, Phase Failure and Phase Sequence • Two Separate Alarm Relays • LED Indication : Power ON, Fault Condition	
MEASUREMENTS	Under / Over Voltage, Under / Over Frequency, Phase Asymmetry, Phase Failure, Phase Sequence, (Neutral Failure applicable only for 900VPR-BL-U)	
DISPLAY	3 digit LCD	3 digit LCD with backlight
ALARM INDICATIONS	Trip	
ELECTRICAL CONNECTION	3Ø - 3W, 3Ø - 4W	
TRIP SETTING	Under / Over Voltage : 280 to 520V AC L-L (for 3Ø - 3W) 160 to 300V AC L-N (for 3Ø - 4W) Under / Over Frequency : 45 / 65Hz, Voltage Asymmetry : 5.0 to 99.9%	Under / Over Voltage : 85 to 500V AC L - L (for 3Ø - 3W) 50 to 288V AC L - N (for 3Ø - 4W) Under / Over Frequency : 45 / 65Hz, Phase Asymmetry : 5.0 to 30.0%
TRIP TIME SETTING	Power ON Delay : 2 to 99.9sec Trip Time Delay : 0 to 99.9sec Recovery Time Delay : 0 to 99.9sec Response Time : <200ms	Power ON Delay : 0.5 to 300sec Trip Time Delay : 0 to 300sec Recovery Time Delay : 0 to 300sec (In Auto Reset Mode) Response Time : <120ms
HYSTERESIS	Voltage : 1.0 to 99.9V, Frequency : 0.2 to 2Hz, Asymmetry : 2 to 20%	Voltage : 1.0 to 40V, Frequency : 0.1 to 2Hz, Asymmetry : 2 to 20%
RESOLUTION	Voltage : 1V, Frequency : 0.1Hz	
ACCURACY	Voltage : $\pm 1\%$ of set value, Frequency : $\pm 0.3\text{Hz}$, Time (Recovery Time, Trip delay, Power on delay) : $\pm 5\%$ of setting +200ms	Voltage : $\pm 1\%$ of set value ± 2 digits, Frequency : $\pm 0.5\% \pm 1$ digits, Time (Recovery Time, Trip delay, Power on delay) : $\pm 5\%$ of Setting $\pm 120\text{ms}$
OUTPUT CONTACT	2 x 1 C/O (SPDT)	
RELAY RATING	NO : 5A@250V AC ; NC : 3A@250V AC (Res.)	
SUPPLY VOLTAGE	Self Powered, Operating Voltage : 280 to 520V AC (L - L) : 160 to 300V AC (L - N)	85 to 270V AC / DC
FREQUENCY	45 / 65Hz	50 / 60Hz
POWER CONSUMPTION	50VA max	4VA max

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	OPERATING RANGE	CERTIFICATION
900VPR-2-280/520V-CE	280 to 520V AC	CE
900VPR-2-280/520V-CU-RoHS		CE
900VPR-BL-U-CE	85 to 270V AC / DC	CE



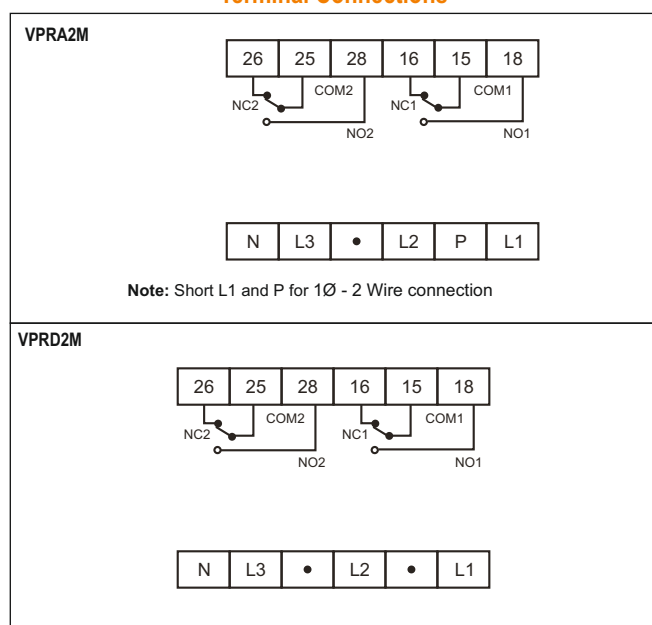
VPRA2M
Size : 35 x 90mm



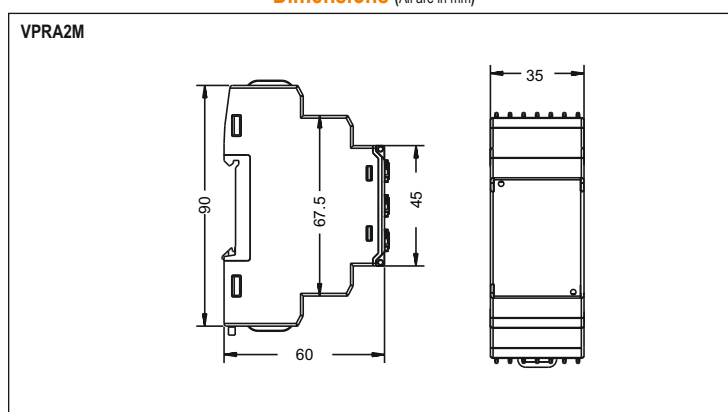
VPRD2M
Size : 35 x 90mm

FEATURES	• Din Rail Mount • Monitors Under Voltage, Over Voltage • Monitors Phase Asymmetry, Phase Failure, Phase Sequence • Adjustable Over and Under Voltage Trip Level • Adjustable Trip Time Delay • LED Indication : Power ON, Fault Condition	
MEASUREMENT	Under Voltage, Over Voltage, Phase Failure, Phase Sequence, Phase Asymmetry	
DISPLAY	Seperate LED indications for Power ON, Phase Failure, Under Voltage, Over Voltage, Phase Sequence, Phase Asymmetry	3 digits LCD
ELECTRICAL CONNECTION	1Ø - 2W, 3Ø - 4W	
TRIP SETTING	Under Voltage : 55 to 95% of Un [127 to 219V AC (L - N)] Over Voltage : 105 to 125% of Un [242 to 288V AC (L - N)] Phase Asymmetry : > 10%	Under Voltage : 127 to 219V AC (L - N) Over Voltage : 242 to 288V AC (L - N) Phase Asymmetry : 5 - 30%
TRIP TIME SETTING	Power ON Delay : 0 to 15sec, Trip Time Delay : 0 to 15sec Recovery Time Delay : 5sec ± 200ms, Phase sequence trip delay <250msec	Power ON Delay : 0.5 to 300sec, Trip Time Delay : 0 to 300sec Recovery Time Delay : 0 to 300sec, Response Time : <150ms
HYSTERESIS	Voltage : 7V (±2V) of trip voltage	Voltage : 1.0V - 99.9V, Asymmetry : 2 to 20%
ACCURACY	Trip Setting : ±5% of F. S. Time Setting : ±10% of F. S.	Voltage : ±1% ± 2 digits, Time Setting : ±5% of Setting ± 150ms
OUTPUT CONTACT	2 C/O (DPDT)	
RELAY RATING	NO, NC : 5A@250V AC (Res.) / 28V DC	
SUPPLY VOLTAGE	Self powered, Nominal Input Voltage (Un) : 230V AC (L - N), Operating Voltage : 127 to 288V AC (L - N)	
FREQUENCY	48 / 63Hz	
POWER CONSUMPTION	5VA max	

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	OPERATING RANGE	CERTIFICATION
VPRA2M-CE	127 to 288V AC	CE
VPRD2M-CE	127 to 288V AC	CE



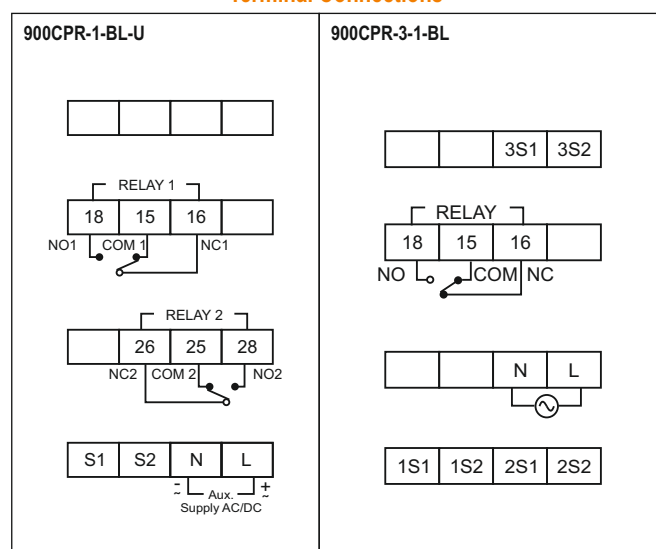
900CPR-1-BL-U
Size : 35 x 90mm



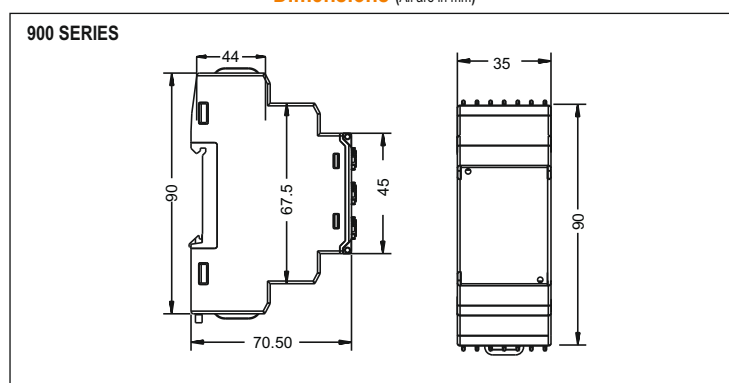
900CPR-3-1-BL
Size : 35 x 90mm

FEATURES	- Din Rail Mount - Monitors Under Current & Over Current - Two Alarm Relay with NC or NO operation selectable - LED Indication : Fault Condition	- Din Rail Mount - Monitors Under Current, Over Current & Current Asymmetry - One Alarm Relay with NC or NO operation Selectable - LED Indication : Fault Condition
MEASUREMENTS	Under Current, Over Current	Under Current, Over Current Monitoring & Current Asymmetry
DISPLAY	3 digit LCD with backlight	
ALARM INDICATIONS	Trip	
ELECTRICAL CONNECTION	1Ø - 2W	1Ø - 2W, 3Ø - 3W, 3Ø - 4W
CT SETTING	CT Primary : 1A / 5A - 999A, CT Secondary : 1A / 5A (Selectable)	
TRIP SETTING	Under Current : 0 - 999A, Over Current : 0.5 to 1.19kA	Under Current : 0 to 999A, Over Current : 0.5 to 1.19kA, Current Asymmetry : 5.0 to 99.9%
TRIP TIME SETTING	Power ON Delay : 0.5 to 99.9sec Trip Time Delay : 0 to 99.9sec Recovery Time Delay : 0 to 99.9sec (In Auto Reset Mode) Response Time : < 200ms	
HYSTERESIS	Current : 0.1 to 99.9A	
RESOLUTION	Current : 0.01, 0.1, 1A, 0.01kA (Depends on CT setting)	
ACCURACY	Current : $\pm 1\%$ of Setting ± 2 digits, Time (Recovery Time, Trip delay, Power on delay) : $\pm 5\%$ of setting ± 200 ms	
OUTPUT CONTACT	2 x 1 C/O (SPDT)	1C/O (SPDT)
RELAY RATING	NO : 5A@250V AC, NC : 3A@250V AC	
SUPPLY VOLTAGE	85 to 270V AC / DC	230V AC $\pm 15\%$
FREQUENCY	50 / 60Hz	
POWER CONSUMPTION	4VA max	15VA max

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
900CPR-1-BL-U-CE	85 to 270V AC / DC	CE
900CPR-3-1-BL-230V-CE	230V AC	CE



900ELR-2
Size : 35 x 90mm



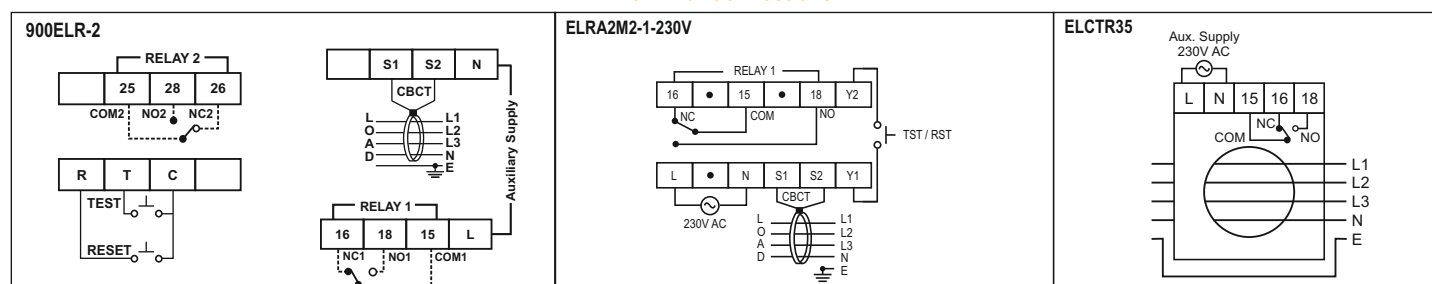
ELRA2M
Size : 35 x 90mm



ELCTR35
Size : 74 x 105mm

FEATURES	- Din Rail Mount - Leakage Current Monitoring in 3Ø & 1Ø systems - RMS Value Measurement (AC) - Test and Reset via Front / Remote - Two Separate Alarms Relays with NO or NC operation selectable	- Din Rail Mount - Monitors True Rms Earth Leakage Current (upto 30A) - Sensitivity and Time Delay Adjustable - Test and Reset Function via Front / Remote - CBCT Open or Short Circuit Detection	- Din Rail Mount - Inbuilt CBCT - Monitors True RMS Earth Leakage Current - Test and Reset Function 1 SPDT Output Protection Relay
MEASUREMENT	Earth Leakage Current (Via external CBCT)		Earth Leakage Current (internal CBCT)
DISPLAY	3 Digit LCD with backlight. 2 LED for Trip indication	5 LED indication	2 LED indication
ELECTRICAL CONNECTION	1Ø - 2W, 3Ø - 4W, 3Ø - 3W	1Ø - 2W, 3Ø - 4W	1Ø - 2W, 3Ø - 3W, 3Ø - 4W
TRIP SETTING	15mA to 30A	30mA to 30A	75% of 30mA or 300mA
TIME RANGES	Power ON Delay : 0.5 to 99.9 sec, Trip Time Delay : 0 to 99.9 sec, Delay On Release : 0 to 99.9 sec	Trip Time Delay : 0 to 9 sec (NA when In=0.03A)	Reset time : Instantaneous
HYSTERSIS	5 to 40%	--	8% of input current
RESOLUTION	0.1mA, 1mA, 0.01A, 0.1A (Depends on trip Setting)	--	--
ACCURACY	Current : ± 5% of setting, Recovery Time, Trip Delay, Power ON delay : ± 5% of setting ± 100ms	Current : ± 5% of Set Trip Current Time : ± 5% of set Time + Response Time	Current : ± 5% of Input Current Time : ± 5% of Response Time
OUTPUT CONTACT	2 x 1 C/O (SPDT)	1 C/O SPDT	
OUTPUT RATING	NC : 3A@250V AC, NO : 5A@250V AC	NO : 10A@277V AC / 28DC	NC : 5A@250V AC, NO : 5A@30V AC
SUPPLY VOLTAGE	230V AC (± 15%)		
FREQUENCY	45 / 65Hz	50 / 60Hz	
POWER CONSUMPTION	3VA max	5VA max	15VA max

Terminal Connections



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
900ELR-2-230V-CE	230V AC (±15%)	CE
ELCTR35-1-300mA-230V-CE	230V AC (±15%)	CE

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
ELCTR35-1-30mA-230V-CE	230V AC (±15%)	CE
ELRA2M2-1-230V-CE		CE

CBCT for Earth Leakage Relays



DESCRIPTION	CBCT for ELRA2M	CBCT for 900ELR-2
Operating Current Range	10mA - 30A	
Sizes (inner diameter)	35 mm, 70 mm, 120 mm, 210mm, 310mm	

Ordering Information

ORDER CODE	INNER DIAMETER (IN MM)	CERTIFICATION
CBCT-35-1	35	CE
CBCT-70-1	70	CE
CBCT-120-1	120	CE
CBCT-210-1	210	CE
CBCT-310-1	310	CE

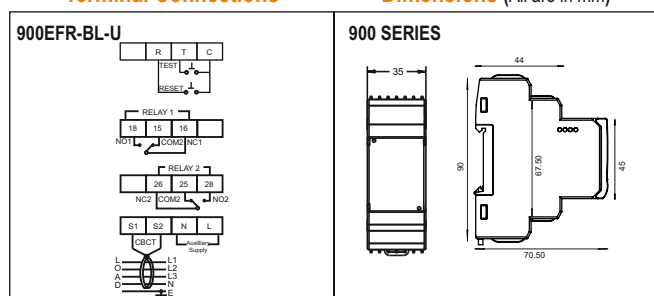


900EFR-BL-U
Size : 35 x 90mm

FEATURES	• Din Rail Mount • Earth Fault Current Monitoring • Two Alarm Relays With NO and NC operation selectable • Test and Reset via Front / Remote • LED Indication : Fault Condition
MEASUREMENT	Earth Fault Monitoring
DISPLAY	3 Digit Liquid Crystal Display with backlight
ELECTRICAL CONNECTION	1Ø - 2W, 3Ø - 3W, 3Ø - 4W
FRAME RATING (CT PRIMARY)	160A, 250A, 630A
M.C.C.B RATING	Depends on Frame Rating
TRIP SETTING	10% to 80% of selectable MCCB frame rating
TIME RANGES	Response time : <100ms Trip time delay : 0 to 99.9sec Recovery time : 0 to 99.9sec Power ON delay : 0.5 to 99.9sec
HYSTERSIS	1 to 10% of fault current settings
RESOLUTION	0.1A when fault current is less than or equal to 99.9A 1A when fault current is greater than 100A
ACCURACY	Current : $\pm 5\%$ of the settings ± 2 digit Time : $\pm 5\%$ of the settings ± 100 ms
OUTPUT CONTACT	2 C/O (SPDT)
OUTPUT RATING	NC : 3A@250V AC NO : 5A@250V AC
SUPPLY VOLTAGE	Auxillary Supply : 85 to 270V AC / DC
FREQUENCY	50 / 60Hz
POWER CONSUMPTION	4VA max

Terminal Connections

Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
900EFR-BL-U-CE	85 to 270V AC / DC	CE

CT for Earth Fault Relays



DESCRIPTION	900EFR
CURRENT RATIO	160/1A, 250/1A, 630/1A
RATED BURDEN	1 VA

Ordering Information

Product Code	Dimension in mm	Current Transformer Ratio
EFCT 100/25 160/1A VAL CL1	100x25	160/1A
EFCT 140/35 160/1A VAL CL1	140x35	160/1A
EFCT 140/35 250/1A VAL CL1	140x35	250/1A
EFCT 180/35 250/1A VAL CL1	180x35	250/1A
EFCT 180/35 630/1A VAL CL1	180x35	630/1A
EFCT 220/50 630/1A VAL CL1	220x50	630/1A

Motor Protection Relay



MPR-3M
Size : 52.5 x 90mm



MPCT
Size : 100 x 73mm

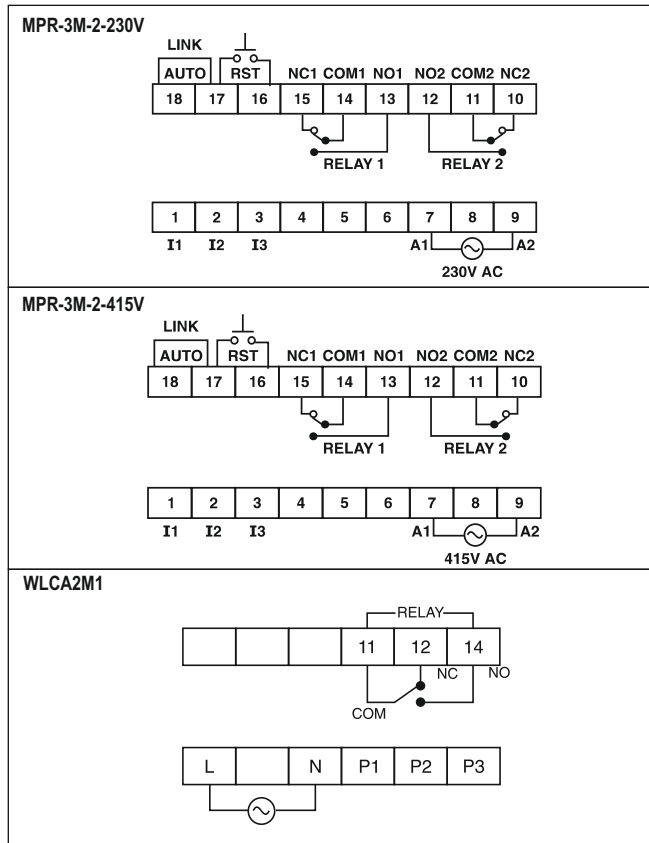
Water Level Controller



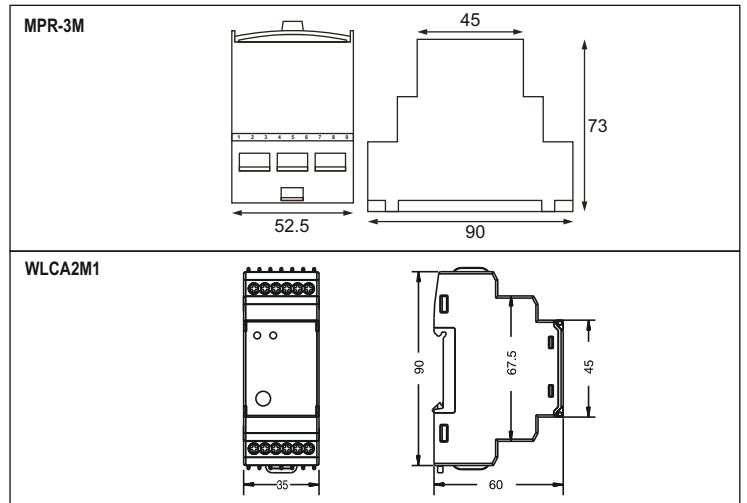
WLCA2M1
Size : 35 x 90mm

FEATURES	- Din Rail Mount - Single Phasing, Phase Asymmetry, Phase Sequence - Under Current, Overload Trip Current - Test and Reset Function via Front / Remote	- Din Rail Mount - Used For Drain & Fill Control 3 No's Stainless Steel Prods 10A SPDT Output (Resistive)
DISPLAY	3 LED Indication	2 LED Indication
AUXILLARY SUPPLY	230 / 415V AC $\pm 15\%$	85 to 270V AC / DC
FREQUENCY	45 / 65Hz	50 / 60Hz
ELECTRICAL CONNECTION	3Ø - 3W	NA
POWER RATING	3VA max	3VA max
TRIP SETTING	Phase Asymmetry : 50% of motor current (Fixed) T(sec) setting : To select 2, 4, 6, 8, 10 sec trip time curve in overload trip curve graph. Under Current : 50% of Motor Current X Imax : To select motor current rating	According to the levels of sensor placed in the water tank
SENSITIVITY	NA	1 Kohms to 200Kohms
TRIP TIME	Single Phase trip : 5 sec, Phase Asymmetry : 5 sec, Phase Sequence : 5 sec Over load trip : As per (IDMT Curve), Under Current trip : 5 Sec	0.5sec (approx)
MODE	Auto / Manual / Remote	Automatic
ACCURACY	Time : $\pm 5\%$ of setting ± 100 ms Current : $\pm 5\%$ of set value	NA
OUTPUT CONTACT	2 C/O (DPDT)	1 C/O (SPDT)
OUTPUT RATING	NC : 5A@ 240V AC NO : 5A@240V AC	10A@250VAC / 28V DC

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
MPR-3M-2-230V	230V AC $\pm 15\%$	---
MPR-3M-2-415V	415V AC $\pm 15\%$	---
WLCA2M1-CE-RoHS	85 to 270V AC / DC	CE

PRODUCT CODE	INPUT CURRENT	CERTIFICATION
MPCT D15 10 A	10 A	---
MPCT D15 40 A	40 A	---
MPCT D15 80 A	80 A	---



- Time Switch - Daily / Weekly (Din Rail Mount)
- Time Switch - Daily / Weekly (Wall Mount)
- Time Switch - Astronomical (Din Rail Mount)

Applicable EMI / EMC standards		
Product standard : IEC 61326-1		
Category	Standards Compliance	
ESD Immunity	IEC 61000-4-2	Level II for Contact discharge Level III for Air discharge
Surge Immunity	IEC 61000-4-5	+/- 2 kV common mode,
Radiated Susceptibility	IEC 61000-4-3	Level III, 80 to 1000MHz Level II, 1.4GHz to 2GHz Level I, 2GHz to 2.7GHz
Conducted Susceptibility	IEC 61000-4-6	Level II
Conducted Emission	CISPR-11	
Radiated Emission	CISPR-11	
Electrical Fast Transient	IEC 61000-4-4	Level II

Note : Above standards are applicable only for CE certified Time Switches

Daily / Weekly

Astronomical



TS2M1-1-16A
Size : 35mm (Width)



TS1W1-1-20A
Size : 60 x 60mm



ATS2M1-1-16A
Size : 35mm (Width)

FEATURES	- Din Rail Mount 50 ON - OFF Steps per Day 1 C/O SPDT - Battery Life : Min 10 Years considering 40% Operating without power	- Wall Mount 50 ON - OFF Steps per Day 1 NO & Neutral - Battery Life : Min 10 Years considering 40% operating without power	- Din Rail Mount - Latitude / Longitude precise to a minute with the time zone - Offset for adjusting Sunrise / Sunset, Off Hours 1 C/O SPDT - Battery Life : Min 10 Years considering 40% operating without power
DISPLAY	Text LCD (Without Backlight)		
RTC SHIFT	15 Minutes a year @ 25°C		
OUTPUT CONTACT	1 C/O SPDT	1 NO & Neutral	1 C/O SPDT
CONTACT RATING	16A @ 250V AC	20A @ 250V AC	16A @ 250V AC
WEEKLY PROGRAM	Total 50 ON Steps and 50 OFF Steps 2 Programs x 25 Steps 3 Programs x 16 Steps 4 Programs x 12 Steps 5 Programs x 10 Steps 6 Programs x 08 Steps 7 Programs x 07 Steps 8 Programs x 06 Steps		—
MINIMUM SETTING UNIT	1 second		
HOLIDAY SETTINGS	16 Dates		—
CLOCK	12-hr. (AM / PM) and 24-hr. selection		
RELAY OPERATING MODE	Auto / Permanent Override ON / Permanent Override OFF		
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	230V AC $\pm 10\%$, 110V AC $\pm 10\%$		230V AC $\pm 10\%$

Terminal Connections

TS2M1-1-16A / ATS2M1-1-16A
TS1W1-1-20A

Dimensions (All are in mm)

TS2M1-1-16A / ATS2M1-1-16A
TS1W1-1-20A

Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
TS2M1-1-16A-230V V2	230V AC	---
TS2M1-1-16A-230V-CE	230V AC	CE
TS1W1-1-20A-230V	230V AC	---
TS1W1-1-20A-230V-CE	230V AC	CE
TS2M1-1-16A-110V	110V AC	---
TS2W1-1-20A-110V	110V AC	---
ATS2M1-1-16A-230V-CE	230V AC	CE



- Analog Timers - 17.5mm DIN Rail
- Analog Timers - 22.5mm DIN Rail
- Analog Timers - Plug / Panel Mount
- Digital Timers - Single Display Multifunction
- Digital Timers - Dual Display Multifunction
- Digital Timer - Sequential
- Time Interval Meters

Applicable EMI / EMC standards		
Product standard : IEC 61326-1		
Category	Standards Compliance	
ESD Immunity	IEC 61000-4-2	Level II for Contact discharge Level III for Air discharge
Surge Immunity	IEC 61000-4-5	+/- 2 kV common mode,
Radiated Susceptibility	IEC 61000-4-3	Level III, 80 to 1000MHz Level II, 1.4GHz to 2GHz Level I, 2GHz to 2.7GHz
Conducted Susceptibility	IEC 61000-4-6	Level II
Radiated Emission	CISPR-11	
Electrical Fast Transient	IEC 61000-4-4	Level II

Note : Above standards are applicable only for CE certified Timers



600DT

Size : 17.5 x 90 x 60mm



600ST

Size : 17.5 x 90 x 60mm



600XU

Size : 17.5 x 90 x 60mm



600SD

Size : 17.5 x 90 x 60mm



642SQ-A

Size : 17.5 x 90 x 60mm



642XA

Size : 17.5 x 90 x 60mm

FEATURES	- Digital Timer 15 Functions 8 Time Ranges 1 C/O SPDT	- Single Function 10 Time Ranges 1 C/O SPDT	13 Functions 10 Time Ranges 1 C/O SPDT	- Star Delta 1 C/O Relay each for Star & Delta	2 Functions 8 Time Ranges 1 C/O SPDT
MODES	A, B, C, D, E, F, H, J, K, L, P, Q, R, T, U	A	A, B, C, Ci, D, E, F, H, I, J, K, Ai, Bi	Star - Delta	ON delay / Interval
TIME RANGES	99.9sec / min / hr, 999sec / min / hr 9:59min:sec, 9:59hr:min	0.1 - 1sec, 0.3 - 3sec, 1 - 10sec, 3 - 30sec, 0.1 - 1min, 0.3 - 3min, 1 - 10min, 3 - 30min, 0.1 - 1hr, 0.3 - 3hr		Run up time : 3 - 30sec, 6 - 60sec Change over : 50/100ms	0 - 3sec / min, 0 - 10sec / min, 0 - 30sec / min, 0 - 60sec / min
RESOLUTION	0.1sec	0.1sec	0.1sec	---	0.3sec
ACCURACY	Setting : $\pm 0.1\%$ of set time or $\pm 50\text{ms}$ (whichever is greater) For Y contact operation : +100ms, Repeat : $\pm 0.1\%$	Setting : $\pm 5\%$ of F.S Repeat : $\pm 0.5\%$ (F.S. = Full Scale) Pause time accuracy : $\pm 5\%$ $\pm 5\text{ms}$			
OUTPUT CONTACT	1 C/O SPDT	1 C/O SPDT	1 C/O SPDT	1 C/O Relay each for Star & Delta	1 C/O SPDT
CONTACT RATING	8A @ 250V AC	5A @ 250V AC or 24V DC			
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	20 to 240V AC / DC	240V AC	20 to 240V AC, 12 to 240V DC	230V AC	230V AC, 24V AC / DC 20 to 240V AC, 12 to 240V DC

Modes

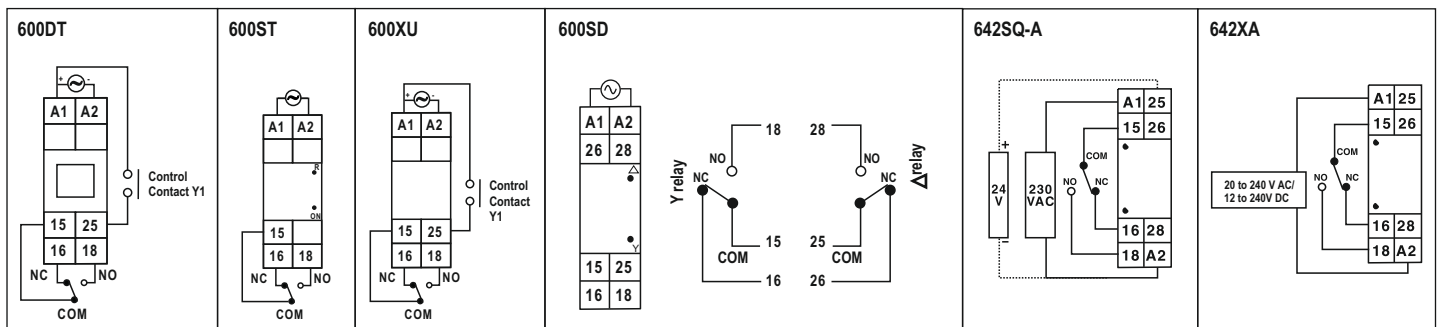
600DT

A - ON delay, B - Interval, C - Asymmetrical cyclic OFF first, D - Asymmetrical cyclic ON first, E - Repeat cycle equal OFF first, F - Repeat cycle equal ON first, H - Pulse output, J - Delay on break, K - Delay on make/Delay on break, L - Interval after break, P - single shot, Q - Retriggerable single shot, R - Latching relay, T - Delay on make with Totalise, U - Interval with Totalise

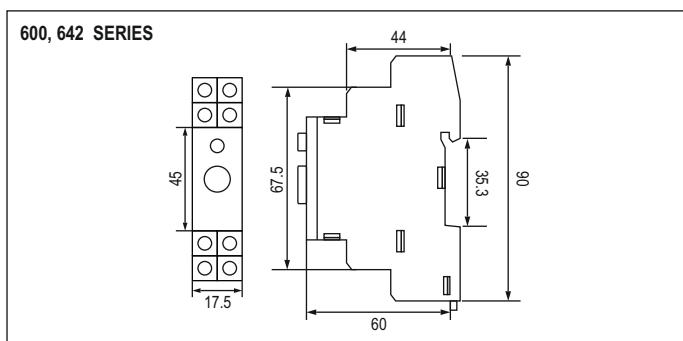
600ST & 600XU

A - ON delay, B - Interval, C - Repeat cycle equal OFF first, Ci - Repeat cycle equal ON first, D - Pulse output 500ms fixed, E - Delay on break, F - Delay on make / Delay on break, H - Interval after break, I - Single shot, J - Retriggerable single shot, K - Latching relay, Ai - Delay on make with Totalise, Bi - Interval with Totalise

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
600DT	20 to 240V AC / DC	CE
600DT-CU		CE
600XU-A-1-CU	20 to 240V AC, 12 to 240V DC	CE
600SD-2-230	230V AC	CE
600ST	240V AC	CE
600ST-CU		CE
642SQ-A	230VAC, 24V AC / DC	---
642XA	20 to 240V AC, 12 to 240V DC	---



800XU

Size : 22.5 x 75 x 101mm



800XA

Size : 22.5 x 75 x 101mm



800SQ-A

Size : 22.5 x 75 x 101mm

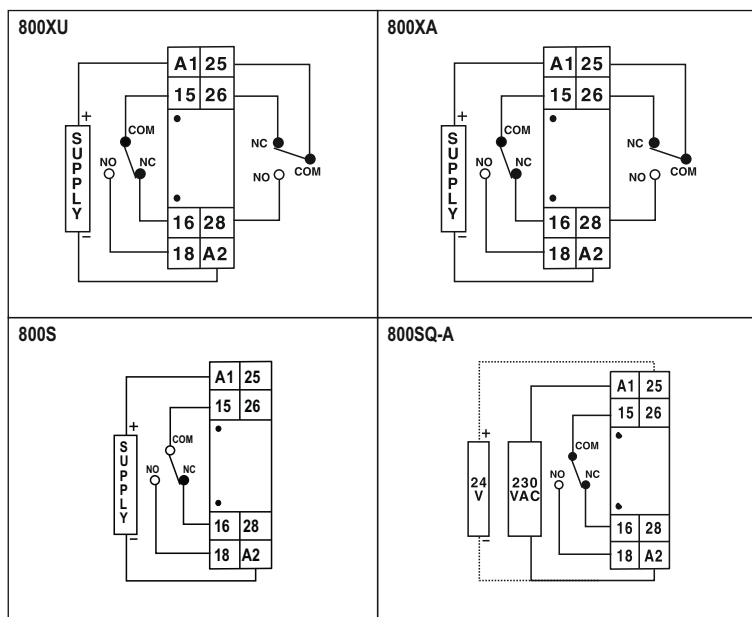


800S

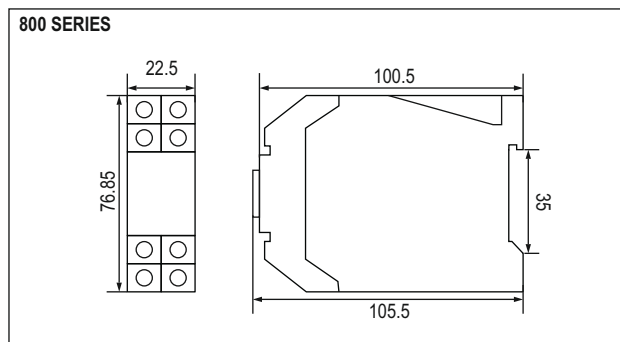
Size : 22.5 x 75 x 101mm

FEATURES	• 2 Functions • 12 Time Ranges • 2 C/O DPDT	• 2 Functions • 8 Time Ranges • 2 C/O DPDT	• 2 Functions • 8 Time Ranges • 1 C/O SPDT	• Single Function • 1 Time Range • 1 C/O SPDT
Modes	ON delay / Interval			ON delay
TIME RANGES	1 / 3 / 10 / 30sec / min / hr	3 / 10 / 30 / 60sec / min	3 / 10 / 30 / 60sec / min	60sec
RESOLUTION	0.1sec	0.3sec	0.3sec	6sec
ACCURACY	Setting: $\pm 5\%$ of Full Scale Repeat: $\pm 0.5\%$ or 50ms (Whichever is greater)			
OUTPUT CONTACT	2 C/O DPDT	2 C/O DPDT	1 C/O SPDT	1 C/O SPDT
CONTACT RATING	5A @ 250V AC or 24V DC			
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	20 to 240V AC, 12 to 240V DC	20 to 240V AC, 12 to 240V DC	230V AC & 24V AC / DC	230V AC, 415V AC

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
800XU-CU	20 to 240V AC, 12 to 240V DC	CE
800XA		---
800XA-CE		CE
800SQ-A	230V AC, 24V AC/DC	---
800S-1-ON-60S-230	230V AC	---
800S-1-ON-60S-415	415V AC	---



800SD-2
Size : 22.5 x 75 x 101mm



800XC
Size : 22.5 x 75 x 101mm



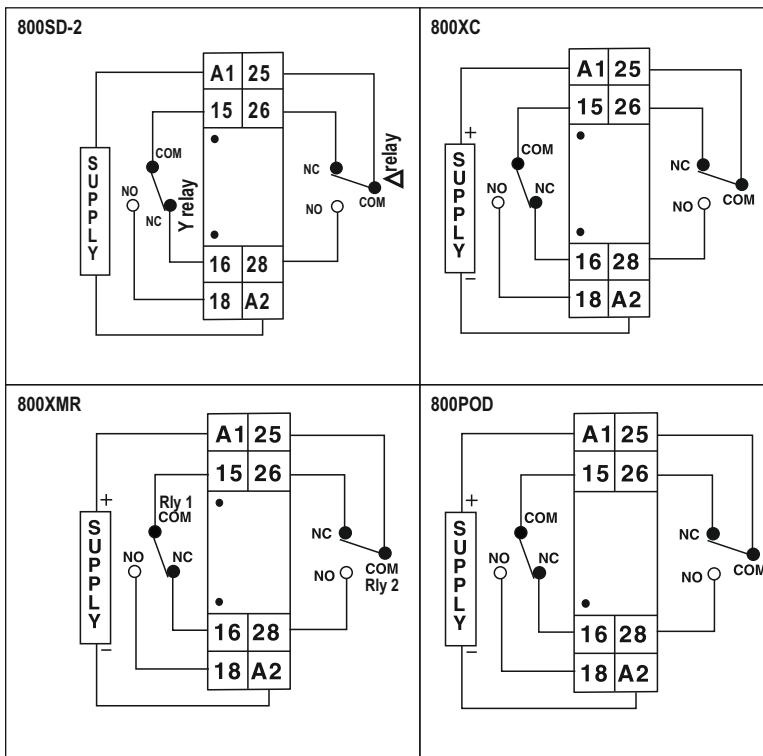
800XMR
Size : 22.5 x 75 x 101mm



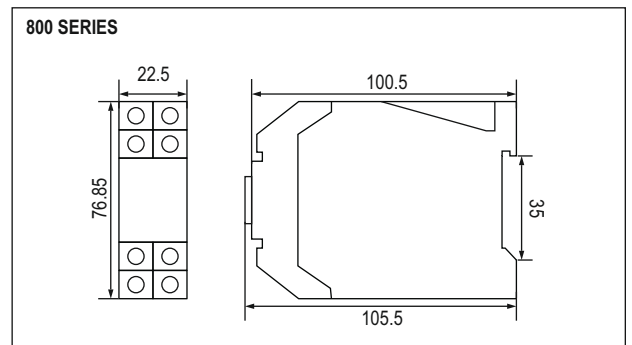
800POD
Size : 22.5 x 75 x 101mm

FEATURES	- Star Delta 2 Time Ranges 1 C/O relay each for Star & Delta	2 Functions 6 Time Ranges 2 C/O DPDT	- Forward Pause Reverse 1 C/O Relay each for Forward & Reverse	- True Power OFF Delay - Fixed Time Range 2 C/O DPDT
MODES	Star - Delta	Asymmetrical Cyclic ON first or OFF first	Forward - Pause - Reverse	True Power OFF Delay
TIME RANGES	Run up time range : 30 / 60sec Change over : 50 / 100msec	1 / 10sec / min / hr for both ON & OFF time	ON time : 1 / 2 / 4 / 8min Pause time : 10 / 20 / 40 / 80s	180sec
RESOLUTION	---	0.1sec	ON time : 6s Pause time : 0.1s	30sec
ACCURACY	Setting : $\pm 0.5\%$ or 50ms (Whichever is greater) Repeat : $\pm 5\%$ of full scale			Setting : $\pm 10\%$ of full scale Repeat : $\pm 2\%$ or 100ms
OUTPUT CONTACT	1 C/O Relay each for Star & Delta	2 C/O DPDT	1 C/O each for Forward & Reverse	2 C/O DPDT
CONTACT RATING	5A @ 250V AC or 24V DC			
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	110V AC, 230V AC 230 to 450V AC	20 to 240V AC, 12 to 240V DC	20 to 240V AC, 12 to 240V DC	110 to 240V AC / DC

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
800SD-2-230	230V AC	---
800SD-2-230-CE		CE
800SD-2-110	110V AC	---
800SD-2-415	230 to 450V AC	---
800XC	20 to 240V AC, 12 to 240V DC	---
800XC-CE		CE
800XMR	20 to 240V AC, 12 to 240V DC	---
800POD-180S	110 to 240V AC / DC	---



55XU
Size : 48 x 48mm



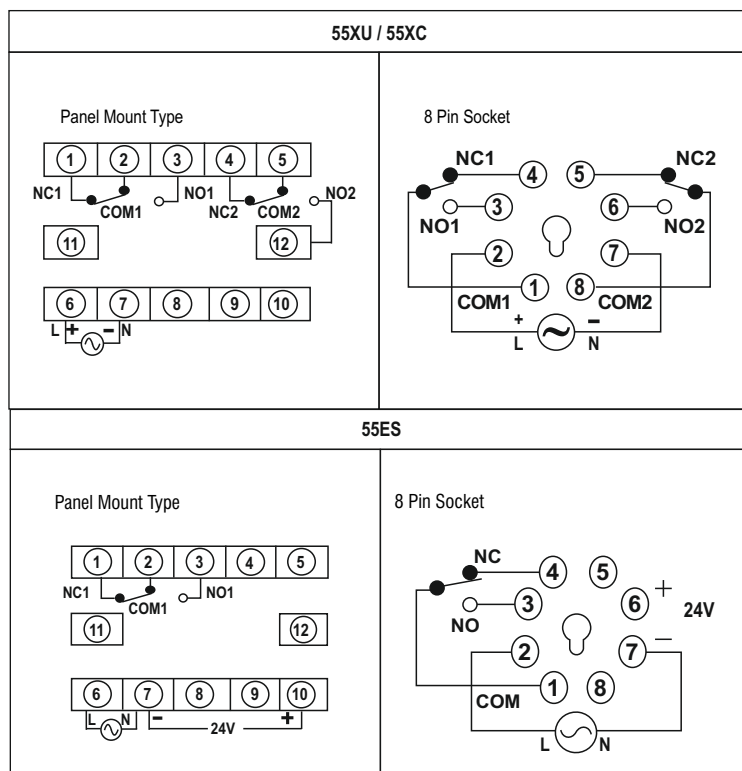
55XC
Size : 48 x 48mm



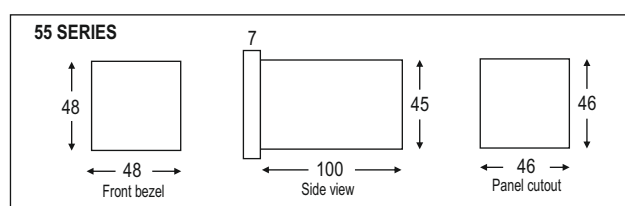
55ES
Size : 48 x 48mm

FEATURES	• 2 Functions • 12 Time Ranges • 2 C/O DPDT	• 2 Functions • 6 Time Ranges • 2 C/O DPDT	• 2 Functions • 8 Time Ranges • 1 C/O SPDT
BASE TYPE	P8 - 8 Pin plug, T8 - Screw terminal		
MODES	ON delay / Interval	Asymmetrical Cyclic ON first or OFF first	ON delay / Interval
TIME RANGE	1 / 3 / 10 / 30sec / min / hr	1 / 10sec / min / hr for both ON & OFF time	3 / 10 / 30 / 60sec / min
RESOLUTION	0.1sec	0.1sec	0.3sec
ACCURACY	Setting : $\pm 5\%$ of full scale, Repeat : $\pm 0.5\%$ or 50 ms (whichever is greater)		
OUTPUT CONTACT	2 C/O DPDT	2 C/O DPDT	1 C/O SPDT
CONTACT RATING	5A @ 250V AC or 24V DC		
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	20 to 240V AC, 12 to 240V DC	20 to 240V AC, 12 to 240V DC	230V AC & 24V AC / DC

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
55XU-P	20 to 240V AC, 12 to 240V DC	---
55XU-T		---
55XC-P8		---
55XC-P8-CU		CE
55XC-T8	20 to 240V AC, 12 to 240V DC	---
55XC-T8-CU		CE
55ES-P8-230	230V AC & 24V AC / DC	---
55ES-T-230		---



XT543
Size : 48 x 48mm



XT56
Size : 48 x 48mm



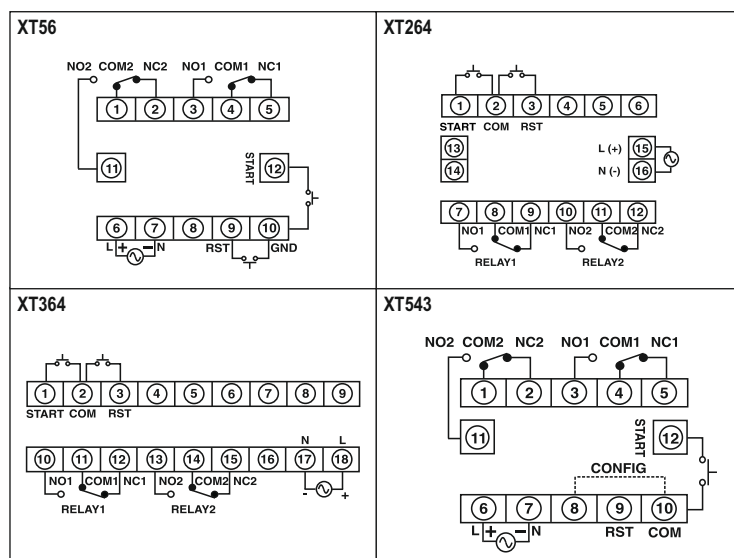
XT264
Size : 72 x 72mm



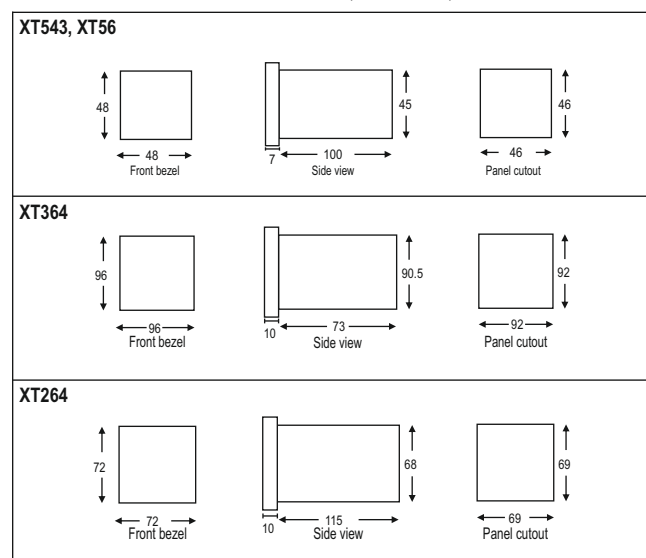
XT364
Size : 96 x 96mm

FEATURES	• Single Set Point • 4 Functions • 9 Time Ranges • 2 C/O DPDT	• Single Set Point • 2 Functions • 6 Time Ranges • 2 C/O DPDT
DISPLAY	3 digits	
SET POINT	Single Set Point	
DELAY MODES	ON delay / Interval / Cyclic ON first / Cyclic OFF first	ON delay / Interval
TIME RANGE	9.99 / 99.9 / 999sec, 9 : 59min : sec, 99.9 / 999min, 9 : 59hr : min, 99.9 / 999hr	9.99 / 99.9 / 999sec, 99.9 / 999min, 99.9hr
RESOLUTION	0.01sec	
TIME SETTING	Front keypad	Pushwheel
RESET / START INPUT	Start : Gate / Pulse start (Programmable)	Start : Pulse start
	Reset : Front panel, Remote reset, On power interruption	
ACCURACY	±0.5% of F.S. or 50 ms	
OUTPUT CONTACT	2 C/O DPDT	
CONTACT RATING	5A @ 250V AC or 24V DC	
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	90 to 270V AC / DC	90 to 270V AC / DC, 24V DC (Applicable Only for XT56N)

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
XT543-N	90 to 270V AC / DC	---
XT56-N	90 to 270V AC / DC	---
XT56-N-CE	90 to 270V AC / DC	CE
XT56-N-24	24V DC	---
XT264-3	90 to 270V AC / DC	---
XT364-3	90 to 270V AC / DC	---

Dual Display, Multifunction

Sequential



XT546 Size : 48 x 48mm
XT246 Size : 72 x 72mm
XT346 Size : 96 x 96mm



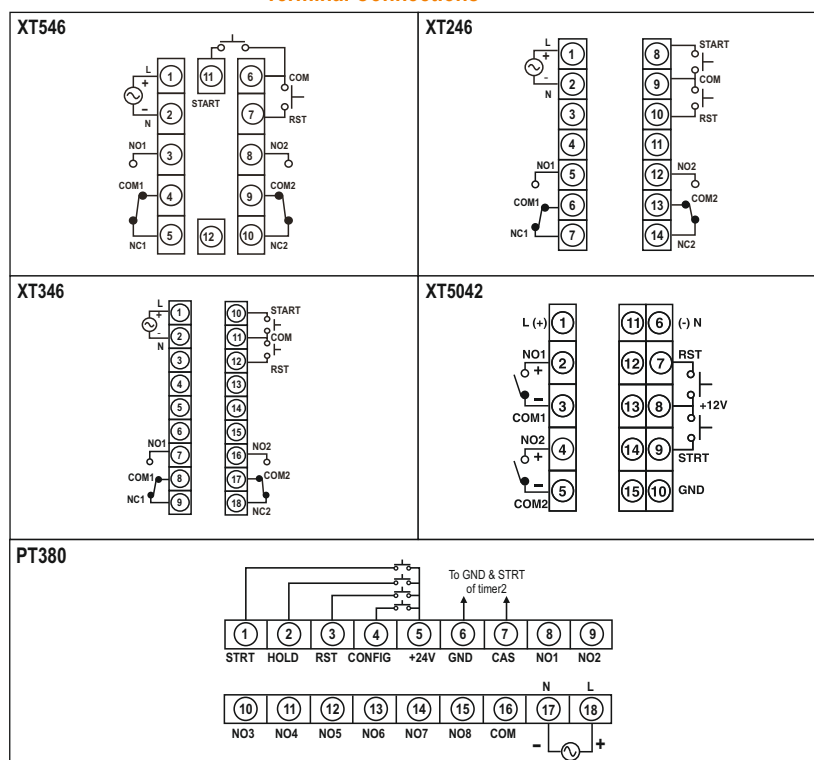
XT5042
 Size : 48 x 48mm



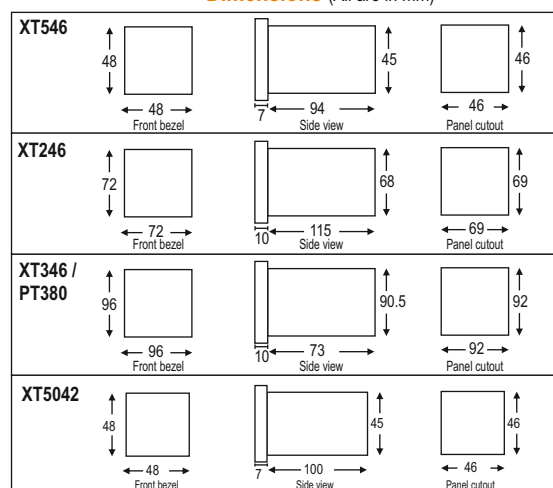
PT380
 Size : 96 x 96mm

FEATURES	• Single Set Point • 4 Functions • 9 Time Ranges • 2 C/O SPDT	• Dual Set Point • 7 Functions • 9 Time Ranges • 2 C/O SPST	• Sequential Timer • 4 Functions • 6 Time Ranges • 8 Channels
DISPLAY	3 digits	4 digits	2 + 4 digits
SET POINT	Single Set Point	Dual Set Point	Single Set Point
MODES	ON delay / Interval / Cyclic ON first / Cyclic OFF first	ON delay / Interval / Cyclic ON first / Cyclic OFF first / Forward-Pause-Reverse / Instantaneous + Delayed / Timer / Batch	ON delay / Interval / Cyclic ON first / Cyclic OFF first (Start up delay & no. of cycles programmable for cyclic mode)
TIME RANGES	9.99 / 99.9 / 999sec, 9.59min : sec, 99.9 / 999min, 9.59hr : min, 99.9 / 999hr	99.99 / 999.9 / 9999sec, 99.59min : sec, 999.9 / 9999min, 99.59hr : min, 999.9 / 9999hr	99.99sec, 999.9sec, 99.59min : sec, 99.59hr : min, 999.9hr
RESOLUTION	0.01sec		
TIME SETTING	Front keypad		
NO. OF CHANNELS	--		8 Channels
RESET/START INPUT	Start : Gate / Pulse start (Programmable) Reset : Front panel, Remote reset, On power interruption		Start, Hold
ACCURACY	±0.05% of F.S. or 50ms (whichever is greater)		±0.5% of F.S. or 50ms (whichever is greater)
OUTPUT CONTACTS	2 C/O SPDT	2 C/O SPST	8 NOs with 1 Com
CONTACT RATING	5A @ 250V AC or 24V DC		
MEMORY RETENTION	10 Years		10 Years (User selectable)
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	85 to 270V AC, 24V DC ((Applicable Only for XT546 & XT246)	90 to 270V AC / DC	85 to 270V AC / DC

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
XT546	85 to 270V AC / DC	---
XT546-24V	24V DC	---
XT546-CE	85 to 270V AC / DC	CE
XT246	85 to 270V AC / DC	---
XT246-24V	24V DC	---
XT346	85 to 270V AC / DC	---
XT5042	90 to 270V AC / DC	CE
XT5042-CU	90 to 270V AC / DC	CE, RoHS
PT380	85 to 270V AC / DC	---



TT412
Size : 36 x 72mm



TI103
Size : 48 x 96mm



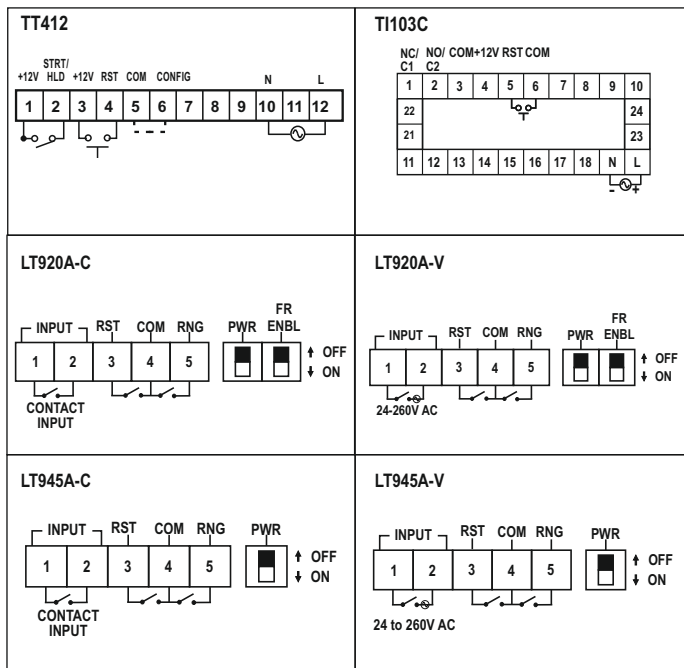
LT920A
Size : 24 x 48mm



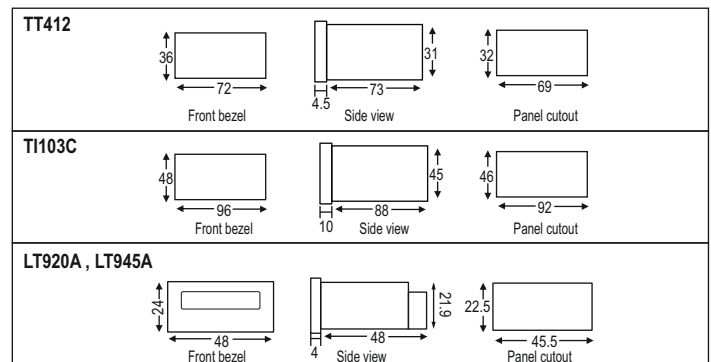
LT945A
Size : 24 x 48mm

FEATURES	• 6 Digits Time Totaliser • Selectable Least Count • Remote Reset	• 4 Digits Time Interval Meter • Range : Auto Ranging, Fixed Ranges	• 8 Digits LCD Time Totaliser • Self Powered • Long Battery Life • Contact / Voltage Input • Front Reset Button	• 8 Digits LCD Time Totaliser • Self Powered • Long Battery Life • Contact / Voltage Input
DISPLAY	6 digits	4 digits	8 digits	
TIME RANGES	99999.9 / 999999sec / min / hr	a) Auto ranging : .0001 to 9999sec b) Fixed ranges : .9999, 9.999, 99.99, 999.9, 9999sec	a) 9999.59.59hr:min:sec b) 999999.99hr	
ACCURACY	±0.05% + 1 count			
INPUT	Mains, Potential free contact, PNP sensor	Potential free & 3 to 30V DC from solid state devices	a) 24 to 260V AC b) Contact input	a) 24 to 260V AC b) Contact input
RESET	Remote (Reset time : 20ms)	Front, Remote (Reset time : 20ms), Auto	Front, Remote	Remote
MEMORY	10 Years	---	5 Years	
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	90 to 270V AC / DC		Battery Powered	

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE		CERTIFICATION
TI103C	90 to 270V AC / DC		---
TT412	90 to 270V AC / DC		---
PRODUCT CODE	INPUT TYPE		CERTIFICATION
	CONTACT	VOLTAGE	
LT920A-C	YES	---	---
LT920A-V	---	YES	---
LT945A-C	YES	---	---
LT945A-V	---	YES	---
LT920A-C-CE	YES	---	CE
LT920A-V-CE	---	YES	CE
LT945A-C-CE	YES	---	CE
LT945A-V-CE	---	YES	CE

Accessories (Common For All Products)

ADAPTER PLATES - Material: ABS plastic
To fit smaller products into 92 x 92mm size or 69 x 69mm size cut outs



Model : AP9672
To fit 72 x 72mm product in to 92 x 92mm cutout



Model : AP9648
To fit 48 x 48mm product in to 92 x 92mm cutout



Model : AP7248
To fit 48 x 48mm product in to 69 x 69mm cutout



Model : AP6050



Model : AP4848

SNUBBER CIRCUIT



Model : APRC01
R - C network to reduce electrical noise



- Count Totalisers
- Counters - Programmable / Preset
- Rate Indicators

Applicable EMI / EMC standards		
Product standard : IEC 61326-1		
Category	Standards Compliance	
ESD Immunity	IEC 61000-4-2	Level III
Surge Immunity	IEC 61000-4-5	+/- 2kV common mode, +/- 1kV differential mode
Radiated Susceptibility	IEC 61000-4-3	Level III, 80 to 1000MHz Level II, 1.4GHz to 2GHz Level I, 2GHz to 2.7GHz
Conducted Susceptibility	IEC 61000-4-6	Level II
Voltage Dips and Interruptions	IEC 61000-4-11	Dips : 0% residual voltage /1 cycle (Criteria B.), 40% residual voltage /10 cycles 50Hz / 12 cycles 60Hz (Criteria C) 70% residual voltage / 25 cycles 50Hz / 30 cycles 60Hz (Criteria C) Interruptions : 0% residual voltage / 250 cycles 50Hz / 300 cycles 60Hz (Criteria C)
Conducted Emission	CISPR-11	
Radiated Emission	CISPR-11	
Electrical Fast Transient	IEC 61000-4-4	Level III

Note : Above standards are applicable only for CE certified Counters

Count Totalisers

Programmable / Preset Counters



XC410A
Size : 36 x 72mm

XC10D
Size : 48 x 96mm



XC22B
Size : 72 x 72mm



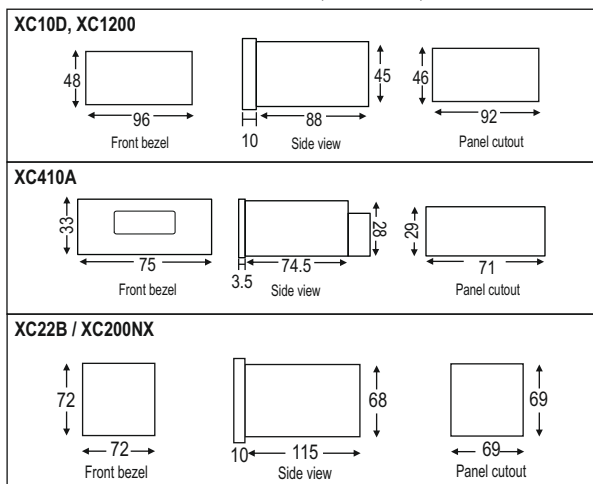
XC200NX
Size : 72 x 72mm



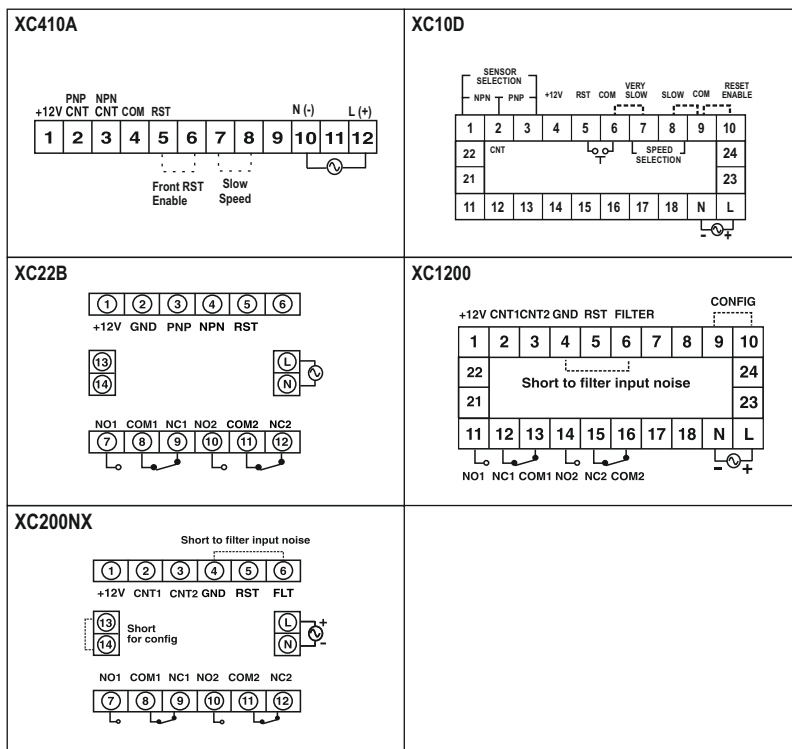
XC1200
Size : 48 x 96mm

FEATURES	6 Digits, 7 segment LED Totaliser - Compact Size - Inbuilt Sensor Supply		- Preset Counter - Thumbwheel Setting - Auto Reset	6 Digits Counter, 5 Digits RPM Indicator - LED Indications : Relay 1, Relay 2 - Dual Set Point - Programmable Input Scaling - Up, Down, Quadrature & Bi-directional
OPERATING MODES	---		ON delay / Interval / Auto reset	ON delay / Interval / Auto reset / Time pulse repeat
TIME RANGES	999999 counts		9999 counts	Selectable least count : 0.0001, 0.001, 0.01, 0.1 & 1 Rate : 4.00 to 99999 RPM/MPH
RESET	Front, Remote		Front, Remote, Auto (Optional)	Front (user selectable), Remote
MEMORY	Yes		Yes (Optional)	Yes
DIRECTION	Up			Up, Down, Bidirectional, Quadrature
SET POINT	---		Single Set Point	Dual Set Point
INPUT SPEED	20Hz, 1kHz (Selectable via Jumper)	3Hz, 30Hz, 1kHz (Selectable via Jumper)	30Hz, 5kHz (Selectable via Dip Switch)	30Hz, 2.5kHz, 5kHz (Programmable)
SCALE FACTOR	---		---	0.00001 to 9.99999 x 10" n = -5, -4, -3, -2, -1, 0, 1, 2
OUTPUT CONTACT	---			2 C/O DPDT
OUTPUT RATING	---			5A @ 250V AC or 24V DC
SENSOR TYPE	NPN, PNP, Potential free contacts			NPN, PNP, Potential free contacts, Encoder
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	230V AC (Only for XC410A), 90 to 270V AC / DC		230V AC	90 to 270V AC / DC

Dimensions (All are in mm)



Terminal Connections



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
XC410A-1-230	230V AC	---
XC10D	90 to 270V AC / DC	---
XC22B-4-230	230V AC	---
XC22B-4-AR-M1-230 (With Memory & Auto Reset)		---
XC1200	90 to 270V AC / DC	CE
XC1200-CU		CE
XC200NX		---

Count Totaliser

Programmable / Preset Counters



LXC900A
Size : 24 x 48mm



XTC5400
Size : 48 x 48mm



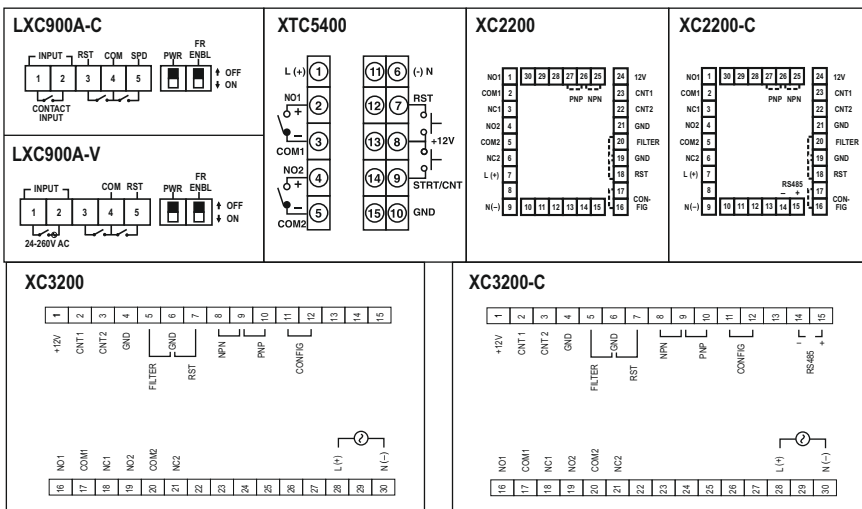
XC3200
Size : 96 x 96mm



XC2200
Size : 72 x 72mm

FEATURES	8 Digits LCD Counter - Self Powered - Long Battery Life - Contact / Voltage input	- Dual Display, 4 Digits, 7 segment LED - LED Indications : Relay 1, Relay 2, Seconds, Minutes, Hours - Dual Set Point - Programmable Input Scaling - Batch Counting	6 Digits Counter, 4 Digits RPM Indicator - LED Indications : Relay 1, Relay 2, Rate, Batch - Dual Set point - Programmable Input Scaling, RS485 Communication (Optional) - User Configurable Relay 2 Operation Mode, Rate / Batch - Unidirectional, Bi-directional & Quadrature with up / down selection
OPERATING MODES	---	Timer : ON delay / Interval / Cyclic ON first / Cyclic OFF first / Batch. Counter : ON delay / Interval / Auto reset, Time pulse repeat, Batch	ON delay / Interval / Auto reset / Time pulse repeat
TIME RANGES	99999999 counts	Timer : 99.99 / 999.9 / 9999sec, 99:59min:sec, 999.9 / 9999min, 99:59hr:min, 999.9 / 9999hr Counter : -999 to 9999 counts	---
RESET	Front, Remote	Front, Remote, Power Interruption	Front (user selectable), Remote
MEMORY	Yes		
DIRECTION	Up	Timer : Down Counter : Up / Down	Up / Down
SET POINT	---	2	2
INPUT SPEED	14Hz, 100Hz (Selectable via Jumper)	3Hz, 30Hz, 5kHz (Programmable)	30Hz, 5kHz (Programmable)
SCALE FACTOR	---	0.001 to 9.999 x 10 ⁿ n = -3, -2, -1, 0, 1, 2	0.00001 to 9.99999 x 10 ⁿ , n = -5, -4, -3, -2, -1, 0, 1, 2
OUTPUT CONTACTS	---	2 C/O SPST	2 C/O DPDT
OUTPUT RATING	---	5A @ 250V AC or 24V DC	
SENSOR TYPE	---	NPN / PNP sensor	
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	Battery Powered	90 to 270V AC / DC	

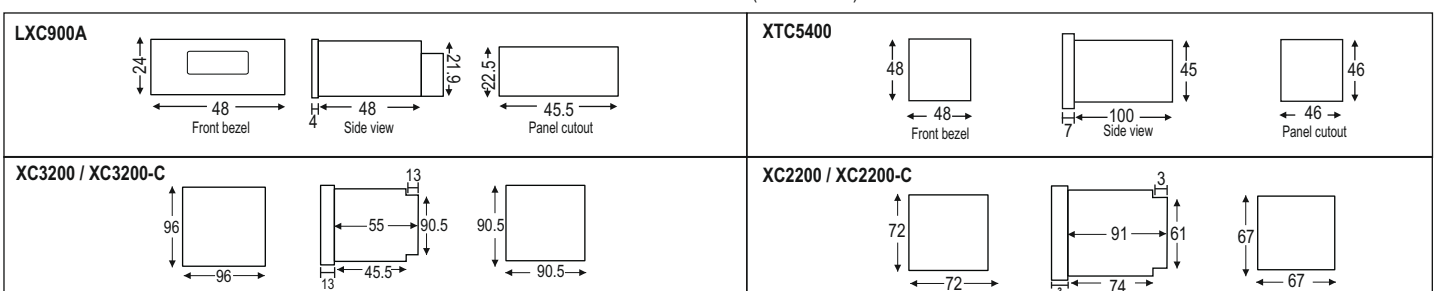
Terminal Connections



Ordering Information

PRODUCT CODE	INPUT TYPE		CERTIFICATION
	Contact	Voltage	
LXC900A-C	YES	---	---
LXC900A-V	---	YES	---
LXC900A-C-CE	YES	---	CE
LXC900A-V-CE	---	YES	CE
PRODUCT CODE	COMM	SUPPLY VOLTAGE	CERTIFICATION
XTC5400	---	90 to 270V AC / DC	CE
XTC5400-CU	---		CE, RoHS
XC3200	---	90 to 270V AC / DC	---
XC3200-C	YES		---
XC3200-CE	---		CE
XC2200	---		---
XC2200-C	YES		---

Dimensions (All are in mm)





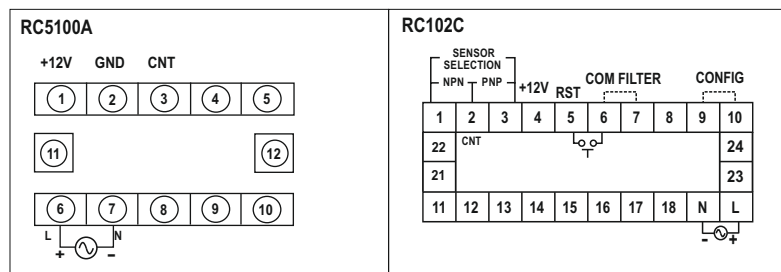
RC5100
Size : 48 x 48mm



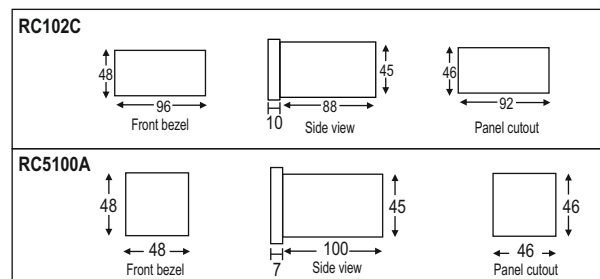
RC102C
Size : 48 x 96mm

FEATURES	- Measures upto 9999 RPM - Inbuilt Sensor Supply	6 Digits Counter 4 Digits Rate Indicator - Programmable Input Scaling - Inbuilt Sensor Supply
DISPLAY	4 digits	Count : 6 digits, Rate : 4 digits
RANGE	4.00 to 9999 RPM	Count : 0.01 to 999999 Rate : 4.00 to 9999 RPM
RESET	---	Front, Remote
SET POINT	---	---
RELAY RATING	---	---
INPUT SPEED	4 to 9999 pulses per minute	a) 0 to 30Hz b) 0 to 2.5kHz
SCALE FACTOR	---	0.00001 to 9.99999 X 10 ⁿ . n = -3, -2, -1, 0, 1, 2
SENSOR TYPE	PNP	PNP / NPN
SENSOR SUPPLY	Inbuilt, 12V DC, ±10%, 30mA.	
COUNTING DIRECTION	---	Unidirectional (Up)
INPUT TYPE	a) Voltage Pulse : 3 to 30V DC from proximity switches, encoder solid state devices b) Potential free contacts.	
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	90 to 270V AC / DC	

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	SUPPLY VOLTAGE	CERTIFICATION
RC102C	90 to 270V AC / DC	---
RC102C-CU		CE
RC102C-CE		CE
RC5100A	90 to 270V AC / DC	---

TEMPERATURE CONTROLLERS



- Temperature Controllers - PID
- Temperature Controller - Profile
- Temperature Controllers
- Temperature Controller - Analog
- Cooling Controller
- Process Indicators

Applicable EMI / EMC standards		
Product standard : IEC 61326-1		
Category	Standards Compliance	
ESD Immunity	IEC 61000-4-2	Level III
Surge Immunity	IEC 61000-4-5	+/- 2 kV common mode, +/- 1 kV differential mode
Radiated Susceptibility	IEC 61000-4-3	Level III, 80 to 1000MHz Level II, 1.4GHz to 2GHz Level I, 2GHz to 2.7GHz
Conducted Susceptibility	IEC 61000-4-6	Level II
Voltage Dips and Interruptions	IEC 61000-4-11	Dips : 0% residual voltage /1 cycle (Criteria B.), 40% residual voltage /10 cycles 50 Hz / 12 cycles 60 Hz (Criteria C) 70% residual voltage / 25 cycles 50 Hz / 30 cycles 60 Hz (Criteria C) Interruptions : 0% residual voltage / 250 cycles 50 Hz / 300 cycles 60 Hz (Criteria C)
Conducted Emission	CISPR-11	
Radiated Emission	CISPR-11	
Electrical Fast Transient	IEC 61000-4-4	Level II

Note : Above standards are applicable only for CE certified Temperature Controllers

PID

Profile



PID500-T
Size : 48 x 48mm



PID500
Size : 48 x 48mm



PID110
Size : 96 x 48mm

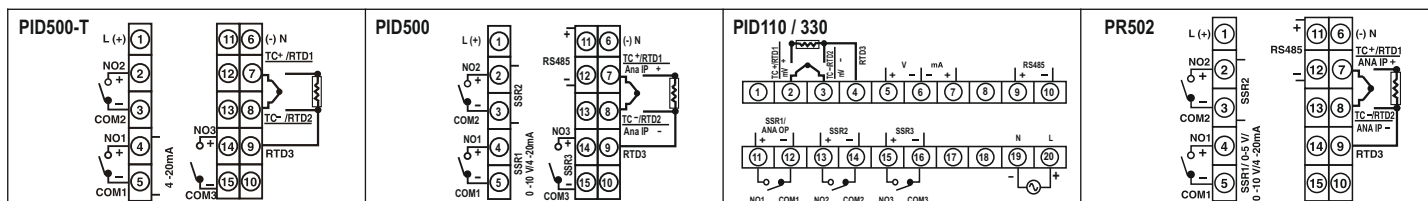
PID330
Size : 96 x 96mm



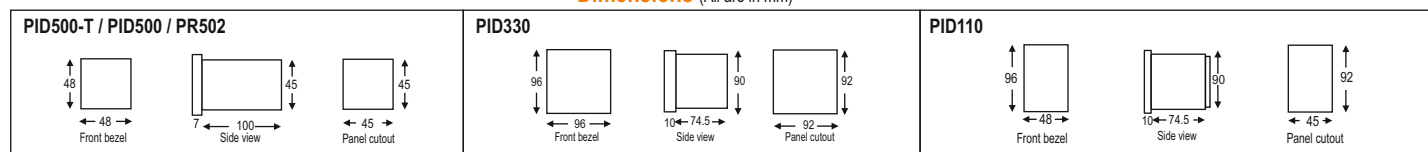
PR502
Size : 48 x 48mm

FEATURES	• TC / RTD Input • Ramp Soak • Max 3 Outputs • Retransmission	• Universal Input • Ramp Soak • Max 3 Outputs • Retransmission (Optional) • RS485 Communication MODBUS RTU Protocol (Optional)	• Ramp / Soak Control • 10 Programs, 16 Steps Each • Alarm at Each Stage • Memory Retention
DISPLAY	4 + 4 digits, 7 segment LED dual display		
INPUT TYPE	Thermocouple: J, K, T, R, S, C, E, B, N, L, U, W, Platinel II RTD: PT100	Thermocouple : J, K, T, R, S, C, E, B, N, L, U, W, Platinel II RTD : PT100 Signal Inputs (DC) : -5 to 56 mV, 0 to 10 V DC, 0 to 20 mA DC	
RESOLUTION	TC / RTD : 1 / 0.1 ^o	TC / RTD : 1 / 0.1 ^o ; Analog Input :1 / 0.1 / 0.01 / 0.001	
ACCURACY	For TC Input : 0.25% of F.S. ±1 ^o ; For R & S Inputs : 0.5% of F.S. ±2 ^o (20 min of warm up time); For RTD Input : 0.1% of F.S. ±1 ^o ; Signal Input : ±0.5%, ± 1 digit (expect PID500-T)		
SET POINT	Maximum 3		
CONTROL MODE	Autotune PID or ON - OFF		
CONTROL OUTPUT	Relay : SPST : 5A @ 230V AC / 30V DC or SSR : 18V DC, 20mA or Current : 0 / 4 to 20 mA DC (max load 500E) or Voltage : 0 to 5 / 10V DC (min load 10K) (Depends on product code selection)		
AUXILIARY OUTPUT	(Maximum 2) Relay or SSR (Mode: Setpoint or Alarm mode) Relay : SPST : 5A @ 230V AC / 30V DC ; SSR : 12V DC,20mA		
OPTIONAL FEATURES	Extra alarm output (relay3), RS485 Communication MODBUS RTU Protocol, Retransmission Analog Output		No. of Profiles : 10 (16 steps each), Ramp / Soak Time Range : 0.01 to 99.59 Hrs, Other Profile Parameters : Link profiles, Programmable repeat cycle, Power down resume, Reset option, Deviation hold, Alarm at each step with settable alarm duration, Retransmission analog output
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	85 to 270V AC / DC		

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	OUTPUT 1	OUTPUT 2	OUTPUT 3		SUPPLY VOLTAGE	CERTIFICATION
			RELAY / SSR	COMMUNICATION (RS485)		
PID500-T-0-0-01	RELAY	RELAY	RELAY	--	85 to 270V AC / DC	--
PID500-T-1-0-01	SSR	RELAY	RELAY	--	85 to 270V AC / DC	--
PID500-T-2-0-00	4-20mA	RELAY	--	--	85 to 270V AC / DC	--
PID500-1-0-00	SSR	RELAY	--	--	85 to 270V AC / DC	CE
PID500-2-0-04	4-20mA	RELAY	RELAY	YES	85 to 270V AC / DC	CE
PID500-3-0-00	0 - 10V	RELAY	--	--	85 to 270V AC / DC	CE
PID500-0-0-01	RELAY	RELAY	RELAY	--	85 to 270V AC / DC	CE
PID500-1-1-05	SSR	SSR	SSR	YES	85 to 270V AC / DC	CE, RoHS
PID330-2-0-01	4-20mA	RELAY	RELAY	--	85 to 270V AC / DC	--
PID110-2-0-04	4-20mA	RELAY	RELAY	YES	85 to 270V AC / DC	--
PR502-0-0-0	RELAY	RELAY	--	--	85 to 270V AC / DC	CE
PR502-2-0-0	4-20mA	RELAY	--	--	85 to 270V AC / DC	CE



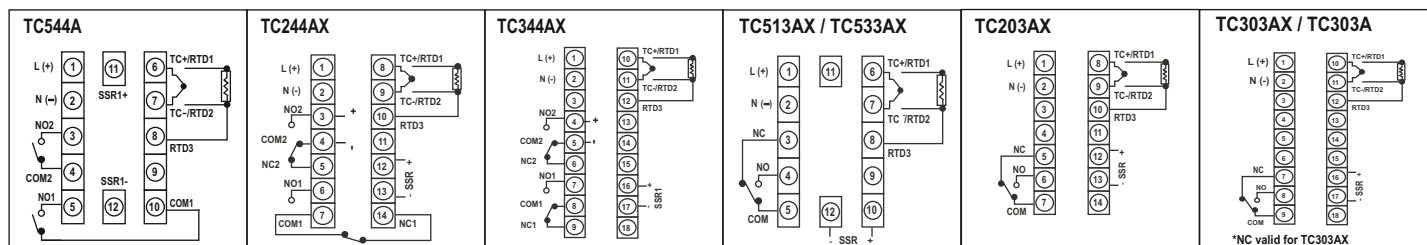
TC544A TC244AX TC344AX
Size : 48 x 48mm Size : 72 x 72mm Size : 96 x 96mm

TC513AX TC203AX TC303AX
Size : 48 x 48mm Size : 72 x 72mm Size : 96 x 96mm

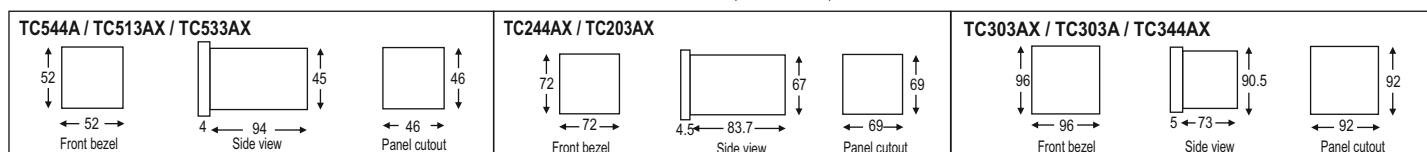
TC533AX
Size : 48 x 48mm

FEATURES	• Dual Display, Dual Setpoint • TC / RTD Inputs • Control Output : Relay or SSR • Auxiliary Output : Relay • Dwell Timer, Heat Cool PID	• Single Display, Single Setpoint • TC / RTD Inputs • Control Output : Relay or SSR	• Dual Display, Single Setpoint • TC / RTD Inputs • Control Output : Relay or SSR
DISPLAY	4 + 4 digits, 7 segment LED dual display	3 digits, 7 segment LED single display	3 + 3 digits, 7 segment LED dual display
INPUT TYPE	Thermocouple (J, K, T, R, S) / RTD (PT100)		
RESOLUTION	0.1/1° for TC / RTD (fixed 1° for R & S TC)	Fixed 1° resolution	
ACCURACY	For TC Inputs : 0.25% of F.S. ±1°; For R & S Inputs:0.5% of F.S. ±2° (20 min of warm up time); For RTD Input : 0.1% of F.S. ±1°		
SETPOINT	2	1	
CONTROL MODE	Autotune PID or ON - OFF		
CONTROL OUTPUT	Relay : SPDT (SPST for TC544A) : 5A resistive @ 230V AC / 30V DC or SSR (Field Selectable) : 12V DC, 50mA	Relay : SPDT (SPST for TC303A) : 10A resistive @ 230V AC / 30V DC or SSR : 12V DC, 50mA	
AUXILIARY OUTPUT	Relay : SPDT (SPST for TC544A) : 5A resistive @ 230V AC / 30V DC	--	
SPECIAL FUNCTIONS	Heat Cool PID Dwell Timer	--	
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	85 to 270V AC / DC, 24V DC (Optional for TC544 Only)	85 to 270V AC / DC	

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	OUTPUT 1		OUTPUT 2	SUPPLY VOLTAGE	CERTIFICATION	PRODUCT CODE	OUTPUT		SUPPLY VOLTAGE	CERTIFICATION
TC544A	RELAY	SSR	RELAY	85 to 270V AC / DC	CE	TC513AX	RELAY	SSR	85 to 270V AC / DC	CE
TC544A-24V	RELAY	SSR	RELAY	24V DC	CE	TC513AX-CU	RELAY	SSR	85 to 270V AC / DC	CE
TC544A-CU	RELAY	SSR	RELAY	85 to 270V AC / DC	CE	TC533AX	RELAY	SSR	85 to 270V AC / DC	CE
TC244AX	RELAY	SSR	RELAY	85 to 270V AC / DC	CE	TC203AX	RELAY	SSR	85 to 270V AC / DC	CE
TC344AX	RELAY	SSR	RELAY	85 to 270V AC / DC	CE	TC303AX	RELAY	SSR	85 to 270V AC / DC	CE
						TC303A	RELAY	SSR	85 to 270V AC / DC	CE



PID528
Size : 48 x 48mm



DTC204A-2
Size : 72 x 72mm



DTC324A-2
Size : 96 x 96mm

FEATURES	• Dual Display, Dual Setpoint • TC / RTD Inputs • Control Output : Relay • Auxiliary Output : Relay	• Single Display, Dual Setpoint • TC / RTD Inputs • Control Output : Relay or SSR • Auxiliary Output : Relay
DISPLAY	4 + 4 digits, 7 segment LED dual display	4 digits, 7 segment LED single display
INPUT TYPE	Thermocouple (J, K, T, R, S) / RTD (PT100)	
RESOLUTION	0.1 / 1° for TC / RTD Inputs (fixed 1° for R & S type TC Input)	
ACCURACY	For TC Inputs : 0.25% of F.S. $\pm 1^\circ$; For R & S Inputs: 0.5% of F.S. $\pm 2^\circ$ (20 min of warm up time) ; For RTD Input : 0.1% of F.S. $\pm 1^\circ$	
SETPOINT	2	
CONTROL MODE	Autotune PID or ON - OFF	
CONTROL OUTPUT	Relay : SPST : 5A resistive @ 230V AC / 30V DC	Relay : SPDT : 10A resistive @ 230V AC / 30V DC or SSR : 12V DC, 30mA
AUXILIARY OUTPUT	Relay : SPDT (SPST for PID528) : 5A resistive @ 230V AC / 30V DC	
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	85 to 270V AC / DC	

Terminal Connections

PID528 	DTC204A-2 	DTC324A-2
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Dimensions (All are in mm)

PID528 	DTC204A-2 	DTC324A-2
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Ordering Information

PRODUCT CODE	OUTPUT 1		OUTPUT 2	SUPPLY VOLTAGE	CERTIFICATION
PID528-1	RELAY	--	RELAY	85-270V AC / DC	CE
DTC204A-2	RELAY	SSR	RELAY	85-270V AC / DC	--
DTC324A-2	RELAY	SSR	RELAY	85-270V AC / DC	--



TC544B
Size : 48 x 48mm



TC513BX
Size : 48 x 48mm



TC533BX
Size : 48 x 48mm



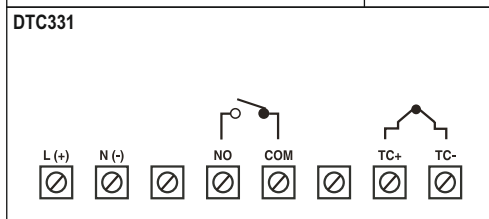
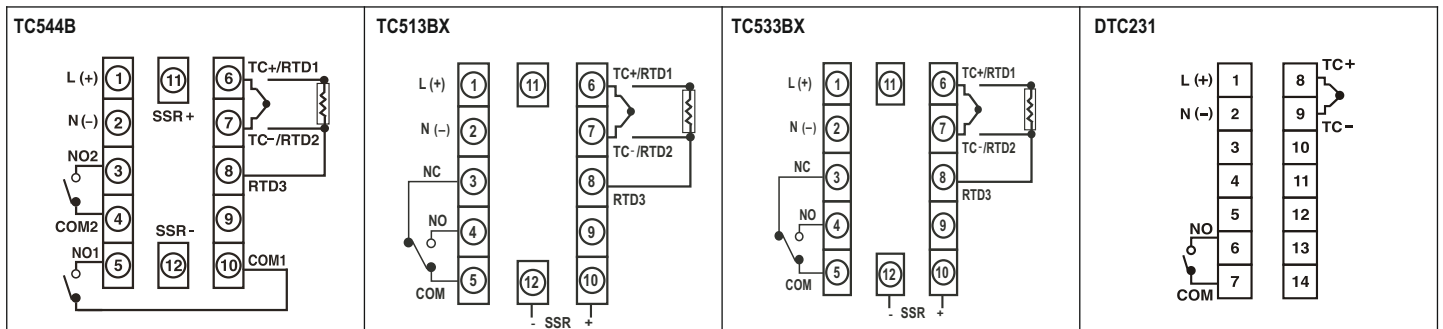
DTC231
Size : 72 x 72mm



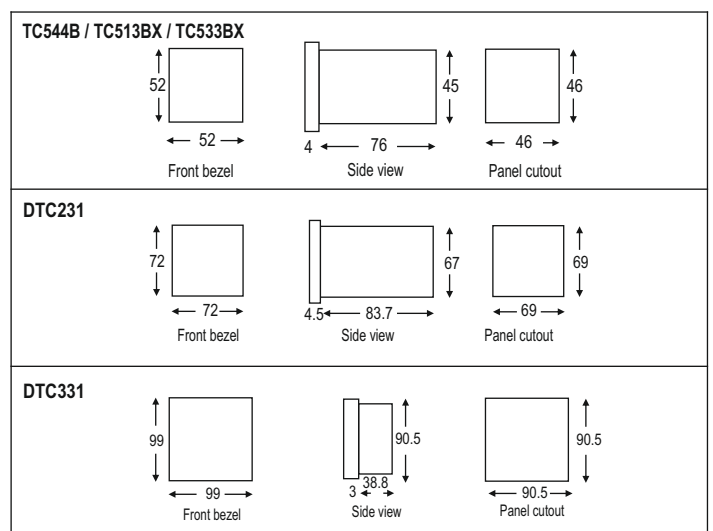
DTC331
Size : 96 x 96mm

FEATURES	- Dual Display, Dual Setpoint - Short Depth TC - TC / RTD Input - Control Output : Relay or SSR - Dwell Timer, Heat Cool PID	- Single Display, Single Setpoint - Short Depth TC - TC / RTD Input - Control Output : Relay or SSR	- Dual Display, Single Setpoint - Short Depth TC - TC / RTD Input - Control Output : Relay or SSR	3 Digit Single Display - J, K TC Input - ON-OFF Control
DISPLAY	4 + 4 digits, 7 segment LED dual display	3 digits, 7 segment LED single display	3 + 3 digits, 7 segment LED dual display	3 digits, 7 segment single display
INPUT TYPE	Thermocouple (J, K, T, R, S) / RTD (PT100)			Thermocouple (J, K)
RESOLUTION	0.1/1° for TC / RTD Inputs (fixed 1° for R & S type TC Input)	Fixed 1° resolution		
ACCURACY	For J,K & T TC Inputs : 0.25% of F.S $\pm 1^\circ$; For R & S Inputs : 0.5% of F.S. $\pm 2^\circ$ (20 min of warm up time for TC Inputs); For RTD Input : 0.1% of F.S $\pm 1^\circ$			0.25% of F.S. $\pm 1^\circ$ (20 min warm up time)
SETPOINT	2	1		
CONTROL MODE	Auto tune / Self tune PID or ON-OFF			ON-OFF
CONTROL OUTPUT	Relay : SPST : 5A resistive @ 230V AC / 30V DC or SSR : 12V DC, 30mA	Relay : SPDT : 10A resistive @ 230V AC / 30V DC or SSR : 12V DC, 50mA		
AUXILIARY OUTPUT	Relay : 5A resistive @ 230V AC / 30V DC	---	---	---
SPECIAL FUNCTIONS	Heat Cool PID, Dwell Timer	---	---	---
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	85 to 270V AC / DC			

Terminal Connections



Dimensions (All are in mm)



Ordering Information

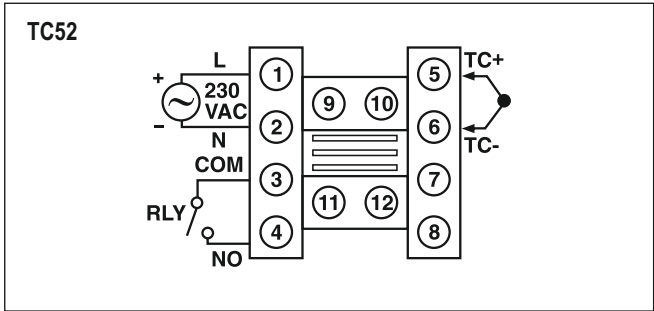
PRODUCT CODE	OUTPUT 1		OUTPUT 2	SUPPLY VOLTAGE	CERTIFICATION
TC544B-CE	RELAY	SSR	RELAY	85 to 270V AC / DC	CE
TC533BX-CE	RELAY	SSR	--	85 to 270V AC / DC	CE
TC513BX-CE	RELAY	SSR	--	85 to 270V AC / DC	CE
DTC231	RELAY	--	--	85 to 270V AC / DC	--
DTC331	RELAY	--	--	85 to 270V AC / DC	--



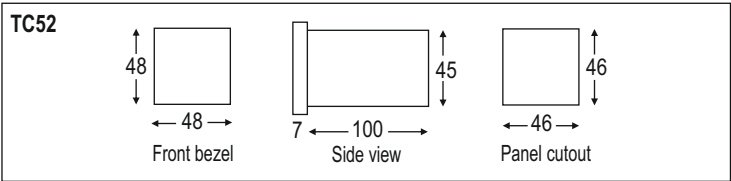
TC52
Size : 48 x 48mm

FEATURES	• Dial setting • TC Input • Single Relay Output • Easy to Use
DISPLAY	Dial Setting
INPUT TYPE	Thermocouple (J)
RESOLUTION	Fixed 1° resolution
ACCURACY	Setting : $\pm 3\%$ of full scale $\pm 0.5\%$ of full scale
SETPOINT	1
CONTROL MODE	Time Proportional & ON-OFF
CONTROL OUTPUT	SPST : 7A resistive @ 230V AC
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	230V AC

Terminal Connections



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	OUTPUT	SUPPLY VOLTAGE
TC52-400-J-230	RELAY	230V AC



CH403A
Size : 36 x 72mm



CH403
Size : 36 x 72mm

FEATURES	• 2½ Digits Single Display • Defrost Management • High / Low Temperature Alarms • Control Output : Relay • Auxiliary Output : Relay & SSR • Door Open Mode	• 3 Digits Single Display • Defrost Management • High / Low Temperature Alarms • Control Output : Relay • Auxiliary Output : Relay & SSR
DISPLAY	2½ digits, 7 segment display	3 digits, 7 segment display
INPUT TYPE	NTC type sensor	
RESOLUTION	1 / 0.1°	
ACCURACY	0.25% of full scale ±1°	±1% of F.S.
SETPOINT	1	
CONTROL MODE	ON - OFF	
CONTROL OUTPUT	SPDT : 10A @ 230V AC / 30V DC or SPST : 20A @ 230V AC / 30V DC (Depends on product code selection)	
AUXILIARY OUTPUT	SSR : 12V DC, 10mA or Relay : SPST : 5A @ 230V AC / 30V DC (Depends on product code selection)	
HYSTERESIS	0.1 to 9.9°	
DISPLAY OFFSET	-19.9° to 19.9°	-19.9° to 20.0°
RESTART TIME DELAY	Adjustable from 0 to 19.9 min	
RELAY ACTION	Heat & Cool Mode	
DEFROST TIME	Programmable from 0 to 99 min	
DEFROST FREQUENCY	Programmable from 0 to 99 (hr / min / sec)	
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	230V AC or 85 to 270 V AC / DC	85 to 270V AC / DC

Terminal Connections

CH403A-1-NTC 	CH403A-2-NTC
CH403A-3-NTC 	CH403-1-NTC
CH403-2-NTC 	CH403-3-NTC

Ordering Information

PRODUCT CODE	OUTPUT		SUPPLY VOLTAGE	CERTIFICATION
	CONTROL OUTPUT	ALARM OUTPUT		
CH403A-1-NTC-CE	RELAY (10A)	SSR (12V DC)	230V AC	CE
CH403A-2-NTC-CE	RELAY (20A)	—	85 to 270V AC / DC	CE
CH403A-3-NTC-CE	RELAY (10A)	RELAY (5A)	230V AC	CE
CH403-1-NTC	RELAY (10A)	SSR (12V DC)	85 to 270V AC / DC	CE
CH403-1-NTC-CU	RELAY (10A)	SSR (12V DC)	85 to 270V AC / DC	CE, RoHS
CH403-2-NTC	RELAY (20A)	—	85 to 270V AC / DC	CE
CH403-3-NTC	RELAY (10A)	RELAY (5A)	85 to 270V AC / DC	CE

Dimensions (All are in mm)

CH403A 	CH403
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PIC152A-VI
Size : 48 x 96mm



PIC101N
Size : 48 x 96mm



PIC101A-T-230
Size : 48 x 96mm



PIC501A-VI-230
Size : 48 x 48mm



PIC101A-VI-230
Size : 48 x 96mm

FEATURES	- TC / RTD / Analog Input 2 Alarm Outputs - Retransmission - RS485 Communication MODBUS RTU Protocol (Optional)	- TC / RTD / Analog Input - Basic Scalable Indicator	- Simple Temperature Indicator - TC / RTD Input type	- Scalable Analog Input - Voltage / Current Input type
DISPLAY	4 digits, 7 segment LED			
INPUT TYPE	Thermocouple : J, K, T, R, S RTD : PT100 Signal Inputs (DC) : -5 to 56mV, 0 to 10V, 0/4 to 20mA	Thermocouple : J, K, T, R, S RTD : PT100 Signal Inputs (DC) : 0 to 56mV, 0 to 10V, 0/4 to 20mA	Thermocouple : J, K, T, R, S RTD : PT100	Signal Inputs (DC) : 0 to 10V, 0/4 to 20mA
RESOLUTION	TC / RTD : 1 / 0.1, Analog Input : 1 / 0.1 / 0.01 / 0.001		1 / 0.1° (Fix 1° resolution for R & S type TC)	
ACCURACY	For TC Inputs: 0.25% of F.S. $\pm 1^\circ$; For R & S Inputs: 0.5% of F.S. $\pm 2^\circ$ (20 min of warm up time); For RTD Input: 0.1% of F.S. $\pm 1^\circ$; Cold junction accuracy $\pm 5^\circ\text{C}$; Signal Input: $\pm 0.5\%$ of F.S., ± 1 digit		For TC Inputs: 0.25% of F.S. $\pm 1^\circ$; For R & S Inputs: 0.5% of F.S. $\pm 2^\circ$ (20 min of warm up time); RTD Input: 0.1% of F.S. $\pm 1^\circ$	
OUTPUT	2 Alarms : SPDT : 5A @ 230V AC / 24V DC Alarm modes : High, Low, Band, Fail output & fault diagnosis. Hysteresis, Annunciator : Programmable, Reset action : Automatic or latched		--	
OPTIONAL FEATURES	Retransmission Output : 0 / 4 to 20mA DC, 0 to 5V DC, 0 to 10V DC, (Software selectable) RS485 Communication MODBUS RTU Protocol (Optional)		--	
SENSOR SUPPLY	24V DC, 30mA (Output to power the sensor)		--	
SUPPLY VOLTAGE (AC : 50 / 60 Hz)	85 to 270V AC / DC, 24V DC (Optional)		230V AC, $\pm 20\%$	

Terminal Connections

PIC152A-VI (230V SUPPLY) 	PIC152A-VI (24V SUPPLY) 	PIC101N
PIC101A-T-230 	PIC101A-VI-230 	PIC501A-VI-230

Dimensions (All are in mm)

PIC101N 	PIC152A-VI / PIC101A-VI-230 / PIC101A-T-230
PIC501A-VI-230 	

Ordering Information

PRODUCT CODE	RETRANSMISSION	COMMUNICATION (RS485)	SUPPLY VOLTAGE	CERTIFICATION
PIC101N	--	--	85 to 270V AC / DC	CE
PIC101N-24V	--	--	24V DC	CE
PIC101N-CU	--	--	85 to 270V AC / DC	CE
PIC152A-VI	Universal	--	85 to 270V AC / DC	--
PIC152A-VI-CE	Universal	--	85-270V AC / DC	CE
PIC152A-VI-24V	Universal	--	24V DC	--
PIC152A-VI-C-24V	Universal	YES	24V DC	--
PIC101A-T-230	--	--	230V AC	--
PIC101A-VI-230	--	--	230V AC	--
PIC501A-VI-230	--	--	230V AC	--

PLCs & HMI



- Flexible IO Solution
- Compact Series
- Fixed I/O Solution
- HMI

Applicable EMI / EMC standards		
Product standard : IEC61131-2		
Category	Standards Compliance	
ESD Immunity	IEC 61000-6-2	Level III
Surge Immunity	IEC 61000-6-2	+/- 2kV common mode, +/- 1kV differential mode
Radiated Susceptibility	IEC 61000-6-2	Level III, 80 to 1000MHz Level II, 1GHz to 2GHz Level I, 2GHz to 2.7GHz
Conducted Susceptibility	IEC 61000-6-2	Level II
Voltage Dips and Interruptions	IEC 61000-6-2	0%, 0.5 Periods (Criteria A) 0%, 250/300 Periods (Criteria C) 40%, 10/12 Periods (Criteria C) 70%, 25/30 Periods (Criteria C) 80%, 250/300 Periods (Criteria C)
Conducted Emission	CISPR 16-2-1 CISPR 16-1-2	Criteria B
Radiated Emission	CISPR 16-2-3	Criteria A
Electrical Fast Transient	IEC61000-6-2	Level III

Note : Above standards are applicable only for CE certified PLCs & HMI



FLEXYS GT35
Size : 99 x 95.6 x 90.5mm



FLEXYS PANEL TX4
Size : 99 x 95.6 x 90.5mm

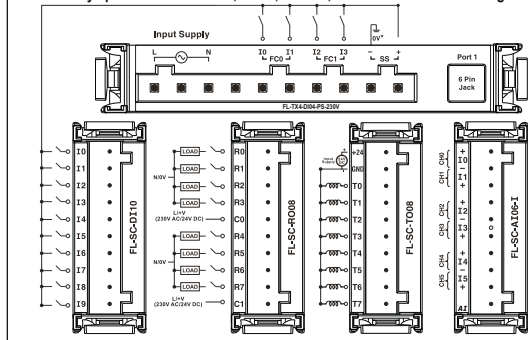


FLEXYS RAIL
Size : 140 x 93.4 x 72mm

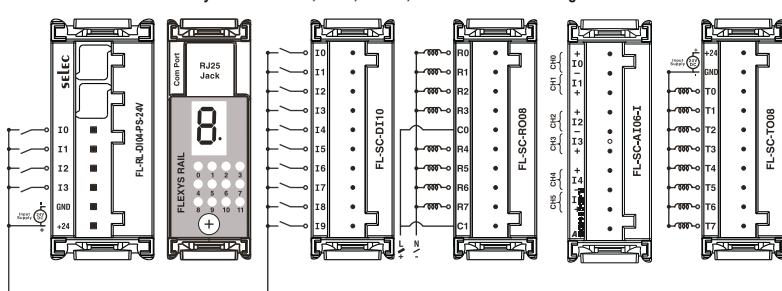
FEATURES	• 3.5" LCD with Touch Screen • Flexible I/O Card selection • Real Time Clock • Expandable	• PLC with built in HMI • Flexible I/O Card selection • Real Time Clock • Expandable	• PLC with Flexible I/O Card Selection • Real Time Clock • Expandable
DISPLAY	TFT 3.5" diagonal Touch screen, Resolution 320x240	LCD with Backlight, 4x16 Character display, Font size 5x7mm	7 segment display for slot number & card status. Multipurpose LED Bank
NO. OF KEYS	5 function keys +1 System Key	18 keys (14 user configurable)	One key to scroll through different slots
I/Os	3 I/O slots (Please refer I/O card for Flexys series)	4 I/O slots (Please refer I/O card for Flexys series)	
DIGITAL INPUTS	4 / 10 /14 per card, PNP (6 to 30V DC)		
MAXIMUM COUNTING FREQUENCY	FC0 (I0 & I1) & FC1 (I2 & I3) - 5KHz (on power supply card only), Normal Digital Inputs - 30Hz		
ANALOG INPUTS	3 / 4 / 6 Channels per card (TC, RTD, 0-10V, 0 to 20mA, NTC)		
RESOLUTION	12 Bit		
RELAY OUTPUTS	4 / 8 per card, NO type 5A @ 230V AC / 30V DC (Resistive)		
TRANSISTOR OUTPUTS	8 per card, Source type 100mA @ 24V DC		
ANALOG OUTPUTS	2 / 4 Channels per card (0 - 10V, 0 - 20mA)		
RESOLUTION	14 Bit (0.0 to 100.0% = 0 to 10.000V, 0.0 to 100.0% = 0 to 20.000mA)		
PROGRAM MEMORY	221K	351K	
EXPANSION	Yes		
COMMUNICATION INTERFACE	RS485 MODBUS RTU Protocol	RS485 MODBUS RTU, Proprietary Protocol	
RTC	Yes		
SUPPLY VOLTAGE	18 - 30V DC, 100 - 240V AC 50 / 60Hz		

Terminal Diagram

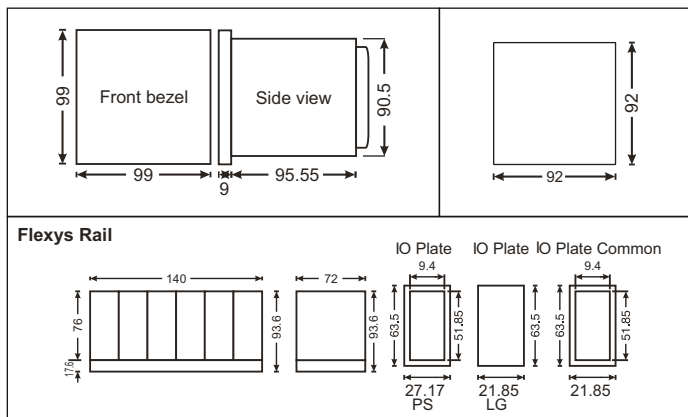
Flexys panel TX4 with DI10, RO08, AI06-I, TO08 & 230V Terminal Diagram



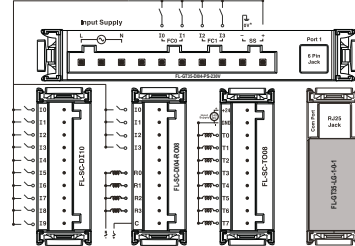
Flexys Rail with DI10, RO08, AI06-I, TO08 & 24V Terminal Diagram



Dimensions (All are in mm)



Flexys GT35 with DI10, DI04 & RO04, TO08 Terminal Diagram



Ordering Information

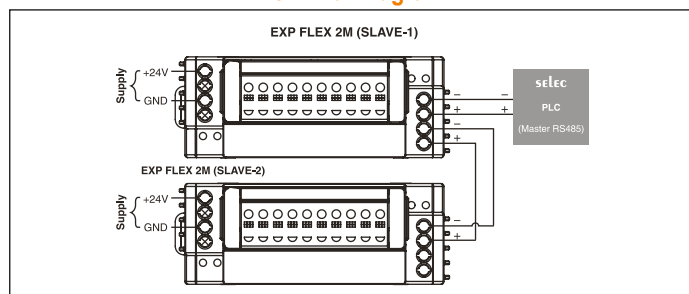
PRODUCT CODE	CERTIFICATION	PRODUCT CODE	CERTIFICATION
FL-GT35-DI04-PS-230V	---	FL-TX4-LG-1-1-1-CE	CE RoHS
FL-GT35-DI04-PS-24V	---	FL-RL-DI04-PS-24V-CE	CE RoHS
FL-GT35-DSP	---	FL-RL-BS-6-CE	CE RoHS
FL-GT35-LG-1-0-1	---	FL-RL-LG-1-1-1-CE	CE RoHS
FL-TX4-DI04-PS-230V-CE	CE RoHS	FL-RL-PS-230V	---
FL-TX4-DI04-PS-24V-CE	CE RoHS		



EXP FLEX 2M
Size : 35 x 90mm

FEATURES	- Any Flexys card can be Configured - Selectable baudrate and Slave ID
DISPLAY	LED indication for Power ON and Communication Status
DIGITAL INPUTS	4 / 10 / 14 per card PNP (6 to 30V DC)
ANALOG INPUTS	3/4/6 Channels per card (TC, RTD, 0 to 10V, 0 to 20mA)
RESOLUTION	12 Bits
RELAY OUTPUTS	4 / 8 per card. NO type 5A @ 230VA C / 30V DC (Resistive)
TRANSISTOR OUTPUTS	8 per card. Source type 100mA @ 24V DC
ANALOG OUTPUTS	2 / 4 Channels per card (0 to 10V, 0 to 20mA)
RESOLUTION	14 Bit (0.0 – 100.0% = 0 – 10.000V, 0.0 – 100.0% = 0 – 20.000mA)
RESPONSE TIME	100 mSec to 2 Sec + IO card Response
BAUDRATE	19200 / 115200 bps (Selectable)
COMMUNICATION INTERFACE	RS485 Proprietary Protocol
SUPPLY VOLTAGE	18 - 30V DC

Terminal Diagram



Product Order Information

PRODUCT CODE	CERTIFICATION
EXP-FLEX 2M	--

Add ons - PLC IO's

ORDER CODE	DESCRIPTION	CERTIFICATION
FL-SC-DI10-CE	10DI (10 Digital Inputs)	CE RoHS
FL-SC-DI14	14DI (14 Digital Inputs)	CE RoHS in process
FL-SC-RO08-CE	8 Relay Outputs	CE RoHS
FL-SC-TO08-CE	8 Transistor Outputs	CE RoHS
FL-SC-TO08-1A	8 Transistor Outputs - 1A	CE RoHS in process
FL-SC-DI04-RO04	4 Digital Inputs & 4 Relay Outputs	CE RoHS in process
FL-SC-AI04-U	4 Universal Analog Inputs	CE RoHS in process
FL-SC-AI04-RTD-CE	4 Channel RTD (PT100) Analog Inputs	CE RoHS
FL-SC-AI04-TC-CE	4 Channel Thermocouple Analog Inputs	CE RoHS
FL-SC-AIDF04-TC-CE	4 Channel Thermocouple Analog Inputs Differential type	CE RoHS
FL-SC-AI06-V-CE	6 Analog Inputs (0-10V)	CE RoHS
FL-SC-AI06-I-CE	6 Analog Inputs (0-20mA)	CE RoHS
FL-SC-AI03-NTC-AI03-I	6 Channel Analog Input, 3 Channel NTC, 3 Channel (0-20mA)	CE RoHS in process
FL-SC-AO04-V-CE	4 Analog Outputs (0-10V)	CE RoHS
FL-SC-AO04-I-CE	4 Analog Outputs (0-20mA)	CE RoHS
FL-SC-AI03-U-AO02-U	3 Universal Analog Inputs, 2 Universal Analog Outputs	CE RoHS in process
FL-SC-LC04	4 Channel Load Cell Card	CE RoHS in process



DIGIX-1

Size : 70 x 90mm



DIGIX-1-1-1-230V

Size : 70 x 90mm



DIGIX-2-1-0-24V

Size : 70 x 90mm



TWIX-1

Size : 48 x 96mm

TWIX-2

Size : 48 x 96mm

MM1015

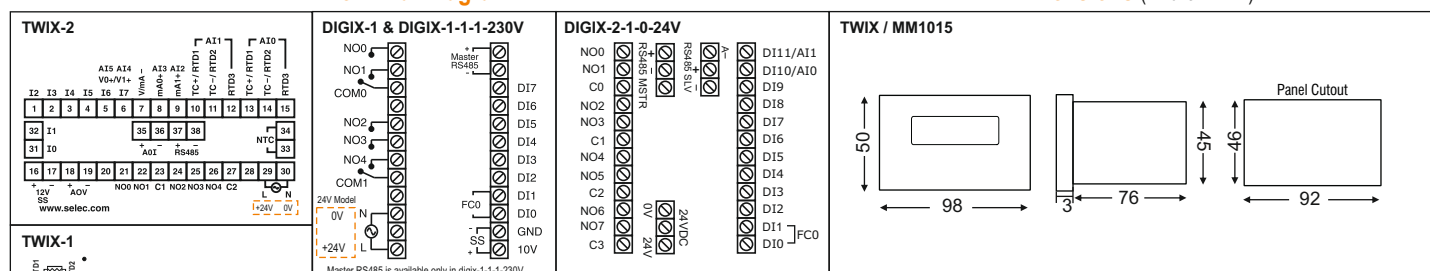
Size : 48 x 96mm

FEATURES	• Compact PLC with built in HMI • 2 Line 8 Character LCD • Real Time Clock • RS485 Communication MODBUS RTU Protocol			• Compact PLC with built in HMI • Configurable LED display • RS485 Communication MODBUS RTU Protocol		• Compact PLC with built in HMI • RS485 Communication MODBUS RTU Protocol
DISPLAY	2 X 8 Character LCD			4 + 4 digits Red & 6 Green digits 7 Segment LED		3 + 4 digits Red & 4 Green digits 7 Segment LED
NO. OF KEYS	5 keys (4 - User configurable)					
DIGITAL INPUTS	8	10 + 2*	6	6 + 2*	10	
INPUT TYPE	PNP (6 - 30V DC)					PNP (11 - 30V DC)
MAXIMUM COUNTING FREQUENCY	FC0 (I0 & I1) - 5KHz, Normal Digital Input: 30Hz					Normal Digital Input: 30Hz
ANALOG INPUTS	NA	Through Expansion	2 Channels (0-10V)	1 Channel (TC / RTD)	6 Channels 2 (TC / RTD), 2 (0-10V), 2(0-20mA)	NA
RESOLUTION			12 Bit			
DIGITAL OUTPUTS	5 Relay		8 Relay	4 Relay	5 Relay	6 Relay
TYPE & RATING	5A NO type @230V AC / 30V DC (Resistive)					
ANALOG OUTPUTS	NA	Through Expansion		NA	1 Channel (0-10V / 0-20mA)	NA
RESOLUTION		As per expansion model			12 Bit	
RTC	NO	YES	NO			
EXPANSION	NO	YES		NO		
PROGRAM MEMORY	112K		240K	112K	240K	224KB
COMMUNICATION INTERFACE	RS485 Modbus RTU Protocol					
SUPPLY VOLTAGE	18 - 30V DC**, 100 - 270V AC / DC 50/60Hz.	100 - 270V AC / DC 50/60Hz.	18 - 30V DC	18 - 30VDC**, 100 - 270V AC / DC 50/60Hz.	100 - 270V AC / DC 50/60Hz.	100 to 270V AC 50 / 60Hz without retention 180 to 270V AC, 50 / 60Hz with retention

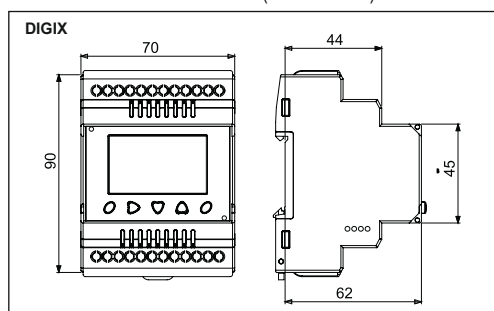
*Voltage Analog Inputs can be configured as Digital Inputs **Please refer Datasheet for exact Order code

Terminal Diagram

Dimensions (All are in mm)



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	CERTIFICATION
DIGIX-1-230V	--
DIGIX-1-0-0-24V	--
DIGIX-1-1-1-230V	--
DIGIX-2-1-0-24V	--
TWIX-1-230V	--
TWIX-1-24VDC	--
TWIX-2-230V	--
TWIX-2-24VDC	--
MM-1015-230V	--



MM3030-2
Size : 96 X 96 mm

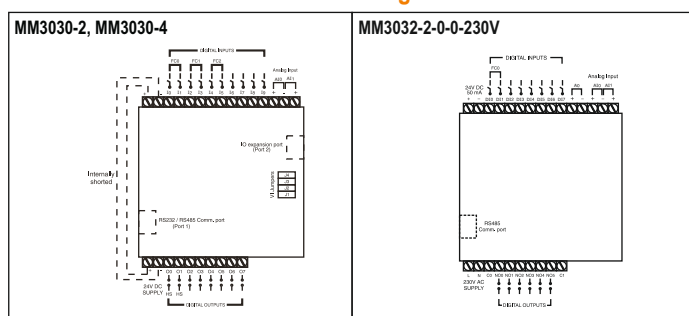
MM3030-4
Size : 96 X 96 mm



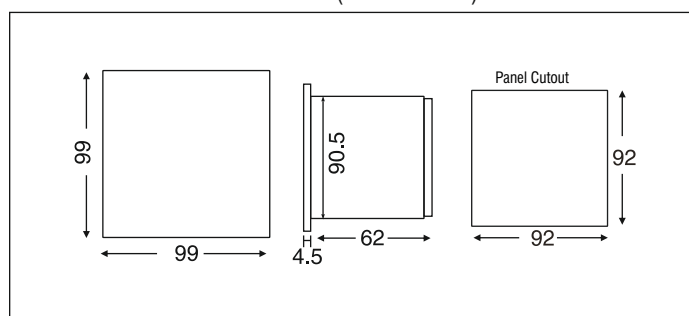
MM3032-2-0-0-230V
Size : 96 X 96 mm

FEATURES	• Low Cost • Panel / Din Rail Mounting • Fast Inputs / Outputs • Windows based User Friendly Software for Ladder Programming and HMI Configuration		• Compact PLC with built-in HMI • 2 line x 16 characters LCD Display • Panel / Din Rail Mounting • Windows based User Friendly Software for Ladder Programming and HMI Configuration
DISPLAY	4x16 Character LCD		2x16 Character LCD
NO. OF KEYS	15 Keys (12 User Configurable)		8 Keys (6 User Configurable)
DIGITAL INPUTS	10 PNP (11 to 30V DC)		8 PNP (6 to 30V DC)
MAXIMUM COUNTING FREQUENCY	FC0 (I0 & I1) – 12KHz, FC1 (I2 & I3) & FC2 (I4 & I5) – 7.5KHz Normal Input – 30Hz.		FC0 (I0 & I1) – 5KHz, Normal Input – 30Hz.
ANALOG INPUTS	2 Channel (0 to 10V or 0 to 20mA) selectable via jumpers		2 Channels (0 to 20mA)
RESOLUTION	10 Bit		12 Bit
DIGITAL OUTPUTS	8 Transistor		6 Relay
TYPE AND RATING	O0 - O1 - Sink 50mA @ 24V DC (Fast Outputs 50KHz) O2 - O7 - Source 100mA @ 24V DC		5A NO type @ 230V AC / 30V DC (Resistive)
ANALOG OUTPUTS	Through Expansion		1 Channel (0 to 10V)
RESOLUTION	As per expansion modules		14 Bits (0.0% to 100.0% = 0 – 10.000V
RTC	YES		NO
EXPANSION	YES		NO
PROGRAM MEMORY	351K		240K
COMMUNICATION INTERFACE SLAVE	RS485 MODBUS RTU Protocol		
COMMUNICATION INTERFACE MASTER	Proprietary Protocol & RS485 MODBUS RTU Protocol	RS485 MODBUS RTU Protocol	NA
SUPPLY VOLTAGE	18 – 30V DC		100 to 270V AC 50 / 60Hz without retention 180 to 270V AC, 50 / 60Hz with Retention

Terminal Diagram



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	CERTIFICATION
MM3030-2	--
MM3030-4	--
MM3032-2-0-0-230V	--



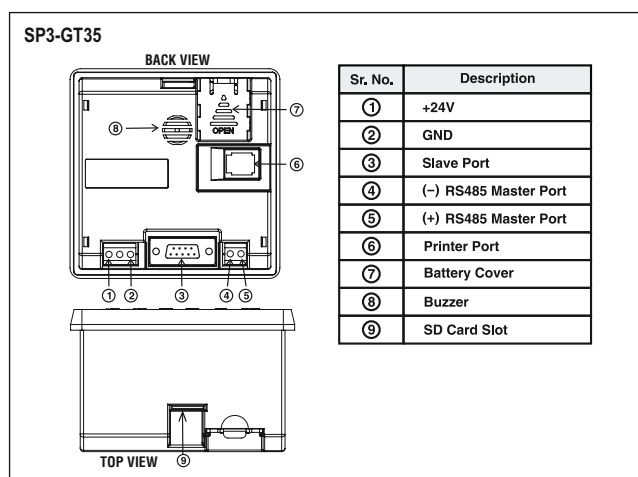
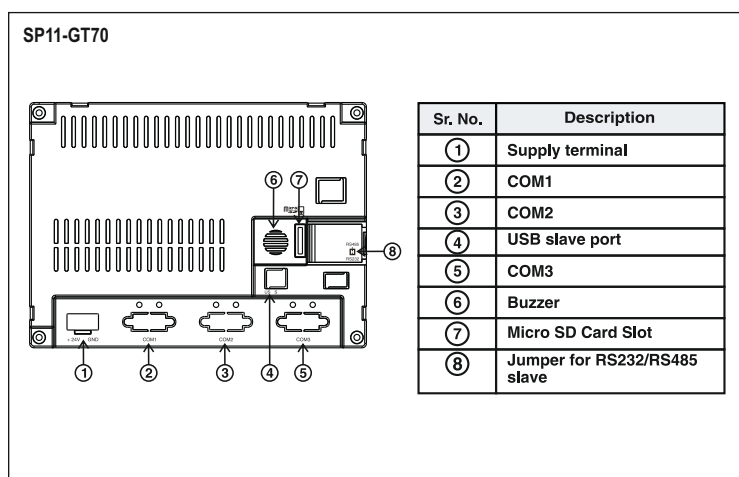
SP11-GT70
Size : 214 x 160mm



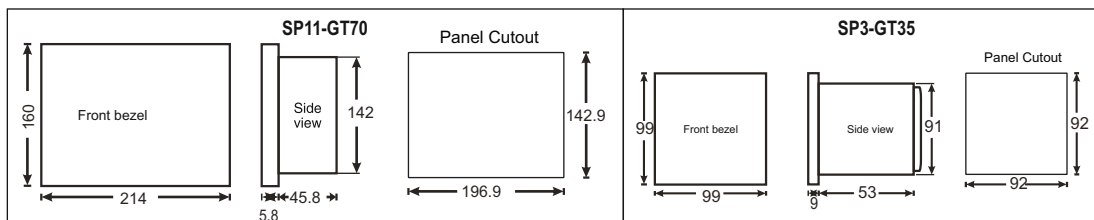
SP3-GT35
Size : 96 x 96mm

FEATURES	7" LCD with Resistive Touchscreen 10 Password Levels - Serial Printing - Data Logging - Built in Buzzer - Recipe Management	3.5" LCD with Resistive Touchscreen 10 Password Levels - Serial Printing - Data Logging - Built in Buzzer - Recipe Management
DISPLAY	7" Diagonal	3.5" Diagonal
TOUCHSCREEN	Yes (Resistive)	
RESOLUTION	800 x 480 pixels	320 x 240 pixels
BACKLIGHT	LED Backlight	
USER MEMORY	16 MB	
DATA LOGGING	2 GB (External SD Card)	
COMMUNICATION PORT 1	Master Port - RS485 MODBUS RTU Protocol	
COMMUNICATION PORT 2	Slave Port - RS485 / RS232 MODBUS RTU Protocol (selectable via jumper)	Slave Port - RS232 MODBUS RTU Protocol
COMMUNICATION PORT 3	Serial Printer ESC/P Protocol	
USB SLAVE	USB 2.0	NA
KEYS	7 Function keys + 1 System Key	5 Function keys + 1 System Key
RTC	Yes	
BACKUP BATTERY	3V CR2032	
OPERATING TEMPERATURE	0° to 55° C	
STORAGE TEMPERATURE	-30° to 80° C	
SUPPLY VOLTAGE	18 to 30V DC	

Terminal Diagram



Dimensions (All are in mm)



Ordering Information

PRODUCT CODE	CERTIFICATION
SP11-GT70-V2	--
SP3-GT35	--



AC-RS485-RS232-ISO



AC-USB-RS232-01



AC-USB-RS485-02



AC-USB-RS485-03



AC-S2E-01

FEATURES	- LED Indication for Communication Status - Interface Connector		- Port Powered - Communication status available as LED Indication		- Web Configuration Telnet Protocol - TCP / IP Protocol
DISPLAY	LED indication for Power on, Tx & Rx		LED indication for Tx & Rx		LED indication for Power ON, Tx and Rx, & Ethernet Communication
INTERFACE 1	Serial (RS485 MODBUS RTU Protocol)		USB 2.0 Compliance		Serial (RS485 MODBUS RTU Protocol)
CONNECTOR	2 Wire		USB Type A		DB9
INTERFACE 2	Serial (RS232 MODBUS RTU Protocol)		Serial (RS485 MODBUS RTU Protocol)		Ethernet (TCP / IP, Telnet)
CONNECTOR	DB9		2 Wire Open	RJ 25 (6 Pin)	RJ 45 (8 Pin)
TRANSMISSION SPEED	2400 to 115000 bps		2400 to 115000 bps		RS485 : 300 to 115000 bps Ethernet : 10 / 100 Mbps
CABLE LENGTH	NA		1 Meter		NA
POWER CONSUMPTION	0.5 W		75mA @ 5V		0.5 W
SUPPLY VOLTAGE	100 to 240V AC		Port powered		12 to 30V DC

ACCESSORIES

Connecting Links



AC-IOEXP-01



AC-IOEXP-03



ACH-002



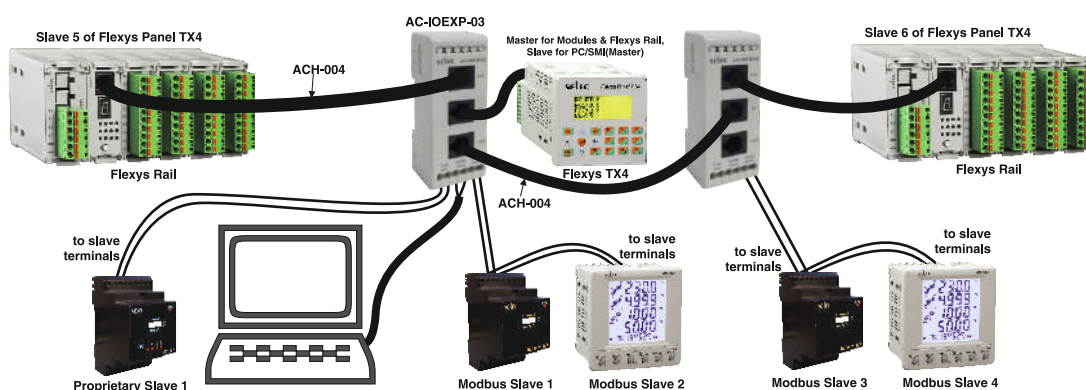
ACH-003



ACH-004

DESCRIPTION	Expansion adaptor for MM303X PLCs	Adaptor for directing RJ25 to open terminal and also for network looping	DB9 to RJ25 cable	Both Side RJ45 type Connector	Both Side RJ25 Type Connector
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Ordering Information



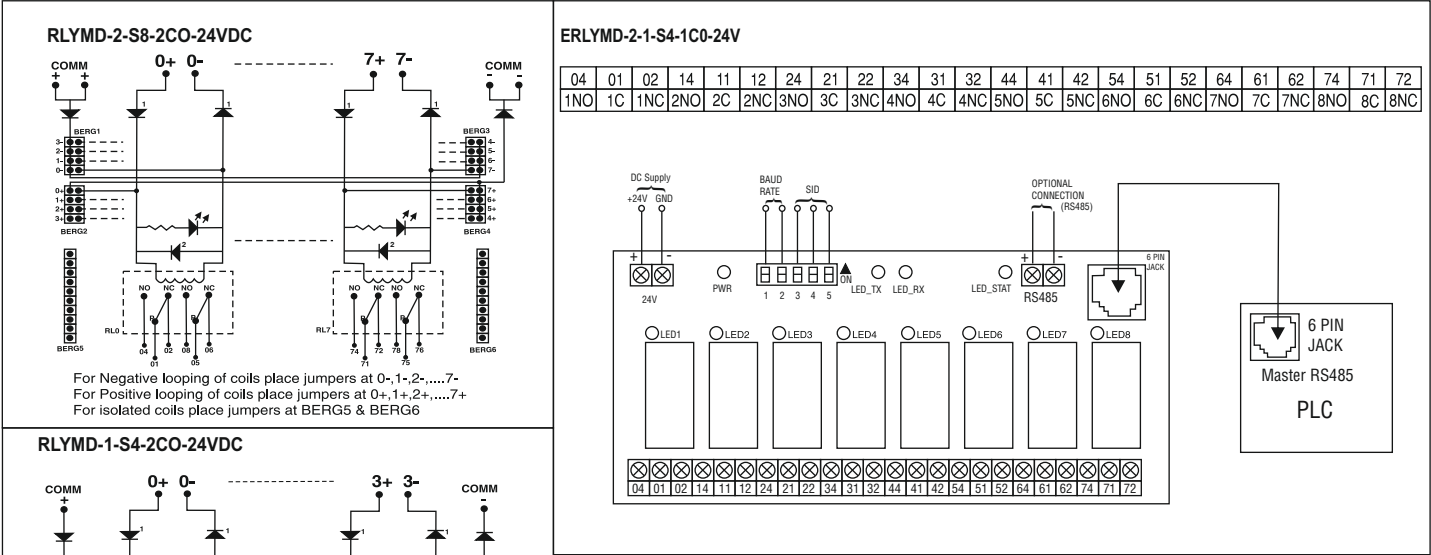
PRODUCT CODE	CERTIFICATION
AC-USB-RS232-01	--
AC-USB-RS485-02	--
AC-USB-RS485-03	--
AC-S2E-01	--
AC-IOEXP-01	--
AC-IOEXP-03	--
ACH-001	--
ACH-002	--
ACH-003	--
ACH-004	--
AC-RS485-RS232-ISO	--



RLYMD-1-S4-1CO-24VDC RLYMD-2-S8-1CO-24VDC RLYMD-1-S4-2CO-24VDC RLYMD-2-S8-2CO-24VDC ERLYMD-2-1-S8-1CO-24V

FEATURES	• LED and Freewheeling Diode Across Coils • Reverse Polarity Protection • Jumpers for Coil Looping • Pluggable Relays				• Selectable Baudrate and Slave ID • Pluggable Relays
CONTACTS	1 C / O		2 C / O		1 C / O
NO. OF CHANNELS	4	8	4	8	8
CONTACT RATING	10A @ 277V AC / 30V DC (Resistive)				
NOMINAL VOLTAGE	24V DC				
MUST VOLTAGE	18V DC				
MAX VOLTAGE	33V DC				
OPERATE TIME	15mSec				
RESET SETTIME	5mSec				
COIL TO CONTACT DIELECTRIC STRENGTH	5000V AC for 1min				
OPEN CONTACT DIELECTRIC STRENGTH	1000V AC for 1min				
COMMUNICATION PROTOCOL	NA				RS485 MODBUS RTU
STATUS DISPLAY	LED indication for Relay ON Status				LED Indication for Relay ON Status, Power ON & Communication Status
SUPPLY VOLTAGE	NA				24V DC

Terminal Diagram



Ordering Information

PRODUCT CODE	CERTIFICATION
RLYMD-1-S4-1CO-24VDC	--
RLYMD-1-S4-2CO-24VDC	--
RLYMD-2-S8-1CO-24VDC	--
RLYMD-2-S8-2CO-24VDC	--
ERLYMD-2-1-S8-1CO-24V	--



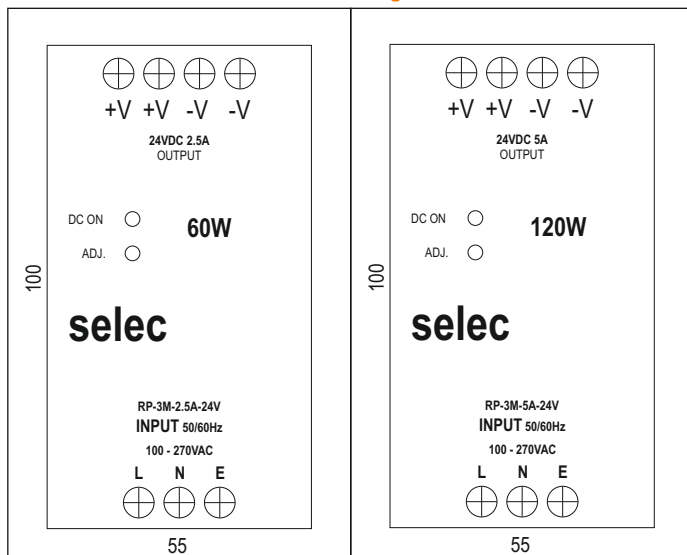
RP-3M-2.5A-24V



RP-3M-5A-24V

FEATURES	• Protection : Overload / Over Voltage • IEC 61010-1 Safety Standards • DIN Rail Mount • Power OK Indication • Cooling by free air Convection	
	LED Indication for DC OK	
DISPLAY	100 ~ 270VAC / VDC	
VOLTAGE RANGE	50 / 60 Hz	
FREQUENCY RANGE	100V - 1.40A, 270V - 0.55A	100V - 2.55A, 270V - 1.15A
AC CURRENT	70% to 85%	
EFFICIENCY	53A	38A
INRUSH CURRENT	24V	
DC VOLTAGE	2.5A	5A
RATED CURRENT	60W	120W
RATED POWER	222mV	
RIPPLE & NOISE MAX (mVp.p)	100*55*105mm (L*W*H)	
DIMENSION	490gms	
WEIGHT	DIN Rail	
MOUNTING		

Terminal Diagram



Ordering Information

PRODUCT CODE	CERTIFICATION
RP-3M-2.5A-24VDC	--
RP-3M-5A-24VDC	--

Company Overview...



Delhi Office



Our facilities at Navi Mumbai, India...

Manufacturing:

Electronic Manufacturing SMT Manufacturing Plant (5 lines)



Electronic Manufacturing Assembly and Testing

Plastic Manufacturing Injection Moulding & Printing



Other Facilities :

Government Approved Design Center, Laboratory For Certification and EMC, Tool Room

Subsidiaries : **Selec GmbH** | **Selec USA**

Head Office :

Selec Controls Pvt. Ltd. EL-27/1, Electronic Zone, TTC Industrial Area, MIDC, Mahape, Navi Mumbai 400710, INDIA.

Tel.: +91-22-4141 8468 / 452. Fax: +91-22-41418 408. Email: sales@selec.com | www.selec.com

Selec USA : www.selecusa.com

Selec GmbH : www.selec-europe.com