EAPL

PRODUCT CATALOGUE 2021-22

Product feature highlights

Leading-edge technology
Sleek, compact & Elegant enclosures
UL graded plastics
Designed as per DIN standard
Indigenous & innovative designs
Ease of programming & Operations
Compliance IS5834/IEC guidelines

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EAPL

ELECTRONIC AUTOMATION (P) LTD.

In association with KRÜGER Switzerland

Access Uncompromising Quality and Obsessive Accuracy.

In ever-changing times, we have held fast to one constant: That of innovating paradigm-shifting products and standard-setting technologies. The aspects upon which we were founded - stringent adherence to quality and compulsive accuracy - have always characterized us and inspired us to take the clear lead in a demanding industry scenario. From timers and tachometers to annunciators, energy meters and cutting-edge monitoring devices, our products and services fulfil and even exceed customer expectations. Because we believe that our only competition is ourselves.

Mission

Contributors in the field of electronics and thereby participants in India's Growth Story, Electronic Automation Pvt. Ltd. (EAPL) is committed to achieving total customer satisfaction by offering products, technologies and services that meet or exceed expectations related to agreed specifications, timely delivery and competitive prices, in National and International Markets.

Electronic Automation Private Limited

Background

EAPL had its humble beginning in the year 1985. It was the brainchild of Late Shri Madhav Kamat who instituted this venture with espousing support from Mr. Christian Kruger of Switzerland. By launching A1D1 – X, EAPL has established itself as a stronghold for in-house manufacturing of standard electronic instruments. As opposed to heavy material instruments, EAPL designs and develops a multitude of compact versions that ensure efficient and optimum level functioning of process control.

Business Profile

EAPL has always focused on manufacturing quality products at an affordable cost. The company has always sought to invent devices of high viability matched with sales at low prices; ensuing from critically controlled and standardized quality-oriented manufacturing methods and thereby assuring no compromise in the caliber of the product. Additionally, the company has been approved by CSA and UL for complying with regulated safety norms. The products aren't specifically targeted at a particular industry. Instead, they function to the purpose of universal application. EAPL, thereby, has garnered a consumer base in both small and large scale industries in over 50 cities throughout India, as well as in a few GCC countries.

Product Portfolio

1) Electronic timers – caters to various electrical applications through different functional features for varied time ranges and voltages in analog and digital formats.
2) Programmable Annunciators – generally used in industries, utilities to annunciate visual and audio faults and its status at any given time.
3) Energy meters – to monitor different parameters in an electrical system
4) Temperature Controllers – generally used to indicate and control process temperatures of different equipments in the industrial sector.
5) Protection Relays – to protect the equipment / system from specified power un-healthiness in the system
6) Digital Time switches- to switch OFF any equipment, appliances, with reference to real time.

Business Operations

Head quartered in Bangalore, EAPL is spread over a vast expanse of around 22,000 sq. feet with infrastructure capable of manufacturing more than 5,00,000 units annually.

EAPL is one of the earliest establishments in Bangalore to be certified under ISO 9001:2008 by UL (Underwriters Laboratory, USA) and has currently upgraded to ISO 9001:2015. The organization has also adopted the SAP B1 as a part of enterprise resource management and fact-based decision making. At present, the production units are equipped with the latest SMT technology. The Quality Control department compliments these efforts by executing timely quality checks ranging from raw material to different stages of manufacturing and concluding with the final product. (IS5834/IEC guidelines)

The organization also has its very own tool room and plastic injection moulding facility which uses UL graded material and consistently abides by quality and safety protocol. Moreover, the in-house EMI/EMC lab strives to strengthen the validation process in assuring finesse in the quality of products.

The Company's vision for the future is to acquaint itself with emerging technologies and develop new products in accordance with the requirements and expectations of its customers.

Products Range

- Electronic Timers
- Digital Time Switches
- Digital Temperature Controllers
- Programmable Fault Annunciators
- Energy Meters
- Digital Counters
- Monitoring Devices
- Tachometer
- Power Supply Modules
- Light Switch

Winning accolades from the future!

INDIA TODAY MAKE IN INDIA EMERGING ENTREPRENEURS AWARDS

Selected as the winner in the category of Electronic system in the prestigious event, Make in India - the challenges and opportunities held on 01/07/2016 in New Delhi.

"Heartiest congratulations to Electronic Automation Pvt Ltd. for being among the "30next""

Forbes India Listing

"30next – Future of Indian Economy" is an ode to the undying spirit of Indian entrepreneurs who have started out small, and now have notched a sizable market share, immense goodwill and brand awareness for their business.

The name is synonymous with the next 30 companies who define success not only by their bottom line, but also by their contribution to the community, dedication by providing great customer service, and by promoting the culture of excellence.

Awards & Recognitions

ISO Certification 9001:2015

Business Excellence Award from ELCINA, Dun & Bradstreet - 2006-07

NATIONAL AWARD – 2008 From Government of India Ministry of MSME

Listed by SAP India for Global Reference Program -2008

NSIC - CRISIL Rating

Approvals and Clientele

Electronic Timers

As pioneers in manufacturing Electronic Timers, EAPL offers a gamut of models to satisfy diverse user-requirements. Quite friendly to the user in terms of setting and operations, these models are classified in series based on size starting from ultra-slim ETR series to well-known compact A series and B series. H series refers to Timers with base.

Ever since inception, EAPL timers have taken over the automation industry by storm. They have received international recognitions for performance and have been identified as a consistent benchmark for quality.

A-Series (22.5mm)

Features

- Suitable for Din Rail / Screw Mounting.
- LED indication for timing in progress.
- Terminal Block safety Protective cover.

Applications

- AMF Panels, Automation Panels, HT / LT Panels, MCC Panels, C & R Panels, RTCC Panels, Transformer Panels and many more.




Ordering Information
Regular

Model	Function	Source Voltage	Time Selection	Output	CSA Appd	Dimensions
A1D1(CSA)#	On Delay	240V AC	0.3Secs to 30Mins	2 C/o Relay	✓	Over-All 22.5 mm W 75mm H 102mm D
A1D1-X(CSA)#	On Delay	X-Version *	0.3Secs to 30Mins	2 C/o Relay	✓	
A1D1-X(60M)#	On Delay	X-Version *	0.6Secs to 60Mins	2 C/o Relay	✓	
A1DE-X(CSA)#	Interval	X-Version *	0.3Secs to 30Mins	2 C/o Relay	✓	
A1DCS-X(CSA)#	Cyclic Equal Off- On	X-Version *	0.6Secs to 60Mins	2 C/o Relay	✓	
A1DN-X(CSA)#,2	Auxiliary Relay	X-Version *	20m Sec	2 C/o Relay	✓	
A1D1(8-30V DC)	On Delay	8V to 30V DC	0.3Secs to 30Mins	2 C/o Relay	–	
A1DA[1]	Signal-Off Delay	110V AC / 240V AC	0.3Secs to 30Mins	1 C/o Relay	–	
A1D-S	Star Delta	110V AC / 240V AC / 415V AC	0.6Secs to 60Secs ##TD 40ms / 100ms	1 C/o (C-NO)Star 1 C/o (C-NO)Delta	–	
A1D1(WB)	On Delay (Wide band)	266V AC to 456V AC	3Secs to 30Secs	1 C/o Relay	–	
A1DH-1	Power-Off Delay	240V AC**	18Secs to 180Secs	2 C/o Relay ***	–	
APD-100[3]	Anti Pumping Device	X-Version*	80m Sec	1 C/o Relay	–	
APD-300[3]	Anti Pumping Device	X-Version*	80m Sec	2 C/o Relay	–	
A1D-Tx	On Delay	X-Version*	0.3Secs to 30Mins	1 C/o Relay	–	

Optional[$]

A1DE(8V-30V DC)	Interval	8V to 30V DC	0.3Secs to 30Mins	2 C/o Relay	–	Over-All 22.5 mm W 75mm H 102mm D
A1DN-X(80mS)[3]	Auxiliary Relay	X-Version *	80mS	2 C/o Relay	–	
A1DA[1]	Signal-Off Delay	24V DC	0.3Secs to 30Mins	1 C/o Relay	–	
A1D-S	Star Delta	250-415V AC	0.6Secs to 60Secs ##TD 40ms / 100ms	1 C/o (C-NO)Star 1 C/o (C-NO)Delta	–	
A1D-S	Star Delta	24V DC	0.6Secs to 60Secs ##TD 40ms / 100ms	1 C/o (C-NO)Star 1 C/o (C-NO)Delta	–	
A1DH-1	Power-Off Delay	24V DC / 240V AC**	0.6Secs to 6Secs	2 C/o Relay***	–	

*X-Version - 24V AC to 240V AC, 24V DC to 220V DC | **:Minimum 2secs of aux. supply has to be applied for each cycle, else timer may malfunction |
***:Contact Rating: 0.5 A @ 250 V AC / 28V DC Resistive | ##: TD – Transfer Delay time is the time between closure of star function and start of delta. |
: These models are also available with UL standard | $: Availability will be for bulk quantity. |
1: Energizes the timer relay with a free from potential signal Command and on removal starts the timing. |
2: Transfer Time equals 20mS (Factory Set) | 3: Transfer Time equals 80mS (Factory Set)

ETR-New Series (17.5mm)

Features

- Slim and Compact design.
- Suitable for Din Rail Mounting.
- Finger guard protection.
- LED indication for timing in progress.

Applications

- Automation Panels, HT / LT Panels, MCC Panels, C & R Panels, RTCC Panels, Transformer Panels and many more.

Ordering Information

Model	Function	Source Voltage	Time Selection	Output	Dimensions
ETR1-X	On Delay	X-Version*	0.3Min to 30Min	1 C/o Relay	Over-All 17.5 x 89 x 62 mm (W X H X D)
ETRCS-X	Cyclic Equal Off-On		0.6Sec to 60Min		
ETRE-X	Interval		0.3Sec to 30Min		
ETRN-X[1]	Auxiliary		20m Sec		
ETR-S[1]	Star Delta	240V AC	6Sec to 60Sec ##TD 100ms	1 C/o (C-NO)Star 1 C/o (C-NO)Delta	
ETR-Sa[1]			12Sec to 120Sec ##TD 100ms		

*: X-Version - 24V AC to 240V AC, 24V DC to 220V DC | ##: TD - Transfer Delay time is the time between closure of star function and start of delta. |
1: Transfer Delay time equals 20mS (Factory Set)

Electronic Timers

Features

- Din sized enclosure.

Applications

- Lubricating systems, Hot air tumblers, Washing Machines, DG Sets, MCC panels, Pump panels and many more..

Ordering Information
Regular

Model	Function	Source Voltage	Time Selection	Output	Dimensions
B1DCA-X	Cyclic Adjustable On-Off	X-Version*	0.6Secs to 60Mins	2 C/o Relay	45 x 75 x 116 mm (W X H X D)
B1DCA-T[1]	Cyclic Adjustable On-Off	110V AC / 240V AC	0.1Secs to 10Hrs	2 C/o Relay	
B1DS	Star Delta	440V AC	0.6Secs to 60Secs ##TD 40ms / 100ms	1 C/o (C-NO)Star 1 C/o (C-NO)Delta	
B1DH-Q	Power-Off Delay	110V AC to 240V AC 110V DC to 220V DC**	6Secs to 60Secs	2 C/o Relay	
B1DF	On Delay with instant contact	110V AC / 240V AC	0.3Secs to 30Mins	1 C/o On Delay 1 C/o Instant	

Optional[$]

B1DF-R[2]	Forward/Reverse with Pause Time	240V AC	Forward & Reverse - 0.6Min to 6Mins Pause- 0.1Min to 1Min	1c/o relay forward and 1c/o reverse	45 x 75 x 116 mm (W X H X D)
B1DCA-T[1]	Cyclic Adjustable On-Off	110V AC / 240V AC/ 12V DC	0.24Secs to 24Hrs	2 C/o Relay	
B1DCA-T[1]	Cyclic Adjustable On-Off	24V DC	0.1Secs to 10 Hrs	2 C/o Relay	
B1DH-Q	Power-Off Delay	110V AC to 240V AC 110V DC to 220V DC**	0.6Secs to 6Secs	2 C/o Relay	
B1DH-Q	Power-Off Delay	24V DC**	6Secs to 60Secs	2 C/o Relay	
B1DF	On Delay with instant contact	24V DC	0.3Secs to 30Mins	1 C/o On Delay 1 C/o Instant	
B1DC-A	Cyclic Adjustable On-Off	12V DC	0.6secs to 60Mins	2 C/o Relay	

*: X-Version - 24V AC to 240V AC, 24V DC to 220V DC | **: Minimum 1Sec of auxiliary supply has to be applied for each cycle, else timer may malfunction
##: TD - Transfer Delay time is the time between closure of star function and start of delta. | $: Availability will be for bulk quantity
1: Hold/Restart – User Selectable, Program enabling / disabling – Field selectable | 2: Pause time between Forward and Reverse functions and vice versa is programmable |

Electronic Timers

Features

- Timer with base(Refer Note 3)
- Large transparent knob.
- Knob lock ring is provided

Applications

- Textile Machine, Vending machine and many more.




Ordering Information

Model	Function	Source Voltage	Time Selection	Output	CSA Approved	Over-All Dimensions	Cut-Out Dimensions
H3D1[1,3]	Multifunction (8 terminals) screw type	X-Version*	0.3Secs to 60Mins	2 C/o Relay	–	48 x 48 x 94mm (W x H x D)	46 x 46 mm (W x H)
H1D1-X[1] (CSA)	Multifunction (11 Pin) plug-in type		0.3Secs to 60Mins		✓		
H1DA-X[2]	Signal Off-Delay (11 Pin) plug-in type		0.6Secs to 60Mins		–		
H1DT-10(CSA)	On-Delay (11 Pin) plug in type.		1Secs to 10Secs		✓		
H1DT-30(CSA)			3Secs to 30Secs		✓		
H1DT-60(CSA)			6Secs to 60Secs		✓		
H4DT-10	On-Delay (8 Pin) plug-in type.		1Secs to 10Secs		–		
H4DT-30			3Secs to 30Secs		–		
H4DT-60			6Secs to 60Secs		–		

*X-Version - 24V AC to 240V AC, 24V DC to 220V DC | 1: Multifunction - On-Delay / Interval / Equal Cyclic On / Equal Cyclic Off - programmable |
2: Energizes the timer relay with potential Signal Command and on removal starts the timings | 3: Timer without base.

Digital Timers

EAPL's programmable Digital Timers feature digital displays for precise settings and higher accuracies. These timers are panel / flush mounted and are endowed with eye-catching aesthetics. These timers come in a sturdy plastic enclosure and is user friendly programming as it has dual windows to display instantaneous process values and set values separately. These multi-function devices afford a wide user selection of features.

Digital Timers

Features

- Function (programmable): ON DELAY / INTERVAL / CYCLIC.
- Type of start signal (programmable): No START SIGNAL / PULSE[2] / CONTINUOUS.
- 1 c/o can be configured by the user to function as INSTANT or DELAYED.
- Program lock facility is available.
- Hold/Restart – User Selectable.

Applications

- Injection molding machine Granite processing machines, Packaging / Printing machines Hot stamping machines and many more.

Ordering Information
Regular

Model	Function	Source Voltage	Time Selection	Output	Over-All Dimensions	Cut-Out Dimensions
H3PT-MU[1]	Multifunction Up-counting	85V to 270V AC / DC	0.1Secs to 99Hrs 59Mins	1C/o Instant[3], 1 C/o Delayed or 2c/o Delayed	48 x 48 x 95.5mm (W X H X D)	46 x 46mm (W X H)
C3PT-MU					72 x 72 x 128.5mm (W X H X D)	69 x 69mm (W X H)
E3PT-MU				1 C/o Instant[3], 2 C/o Delayed or 3 C/o Delayed	96 x 96 x 117mm (W X H X D)	92 x 92mm (W X H)

Optional[$]

H3PT-MU[1]	Multifunction Up-counting	12V DC /24V DC	0.1Secs to 99Hrs 59Mins	1 C/o Instant[3], 1 C/o Delayed or 2 C/o Delayed	48 x 48 x 95.5mm (W X H X D)	46 x 46mm (W X H)
C3PT-MU		24V DC			72 x 72 x 128.5mm (W X H X D)	69 x 69mm (W X H)

$: Availability will be for bulk quantity | 1: Now available in reduced depth with redesigned cabinet for better aesthetics and eliminating protective cover yet retaining the IP class.
2: When pulse signal is initiated the timer resets and immediately the new cycle begins. | 3: Instant feature is not available when cyclic function is programmed.

Sequential Timers

Sequential Timers are multi-channel control devices which operate pre-defined loads in sequence without overlapping for a pre-defined time between two pre-defined time gap.

Sequential Timers are available in graded UL flame retardant plastic enclosures. They are sturdy and compact with less-depth. To make the programming and operation user-friendly, they come with a host of features - copying the 1st relay's program to all the remaining relays, cascading of units to achieve more outputs, retention of last instant value displayed during power-failure and letting the user opt for single or multiple cycles.

Sequential Timers

Features

- Hold /Restart - User Selectable.
- Program of the first relay can be copied to all remaining relays or individually programmed for each relay.
- High brightness seven-segment red LED for channel & time display.
- LED indications to select DELAY/ON time range during programming and relay status during operations.
- Non potential pulse start signal for initiation. (Refer Note 3)
- User Selection for single/repeat cycle (Refer Note 1)
- Time inhibit / Pause. (Refer Note 5)
- Cascading of units to achieve higher outputs. (Refer Note 5)

Applications

- Bag Filter systems, Dust pollution systems, Air handling systems, MCC panels, Pneumatic Conveyors, Process Industries and many more.

Ordering Information - Regular

Model	Function	Source Voltage	Time Selection	Output	Dimensions
ST4-M1[1,2,3,5]	Sequential Switching 4 channels	240V AC	0.1S/M/H to 1S/M/H	1 C/o NO Relay for each channel	110 x 86 x 68mm (W X H X D)
ST6-M1	Sequential Switching 6 channels	85V to 270V AC / DC	0.1Secs to 99Hrs 59Mins	1 C/o NO Relay for each channel	200 x 130 x 45mm (W X H X D)
ST10-M1	Sequential Switching 10 channels				
ST10-M2			0.01Secs to 99Hrs 59Mins	Triac O/p for each channel**	
ST6-M1(IP)	Sequential Switching 6 channels with IP Enclosure		0.1Secs to 99Hrs 59Mins	1 C/o NO Relay for each channel	291 x 214 x 68mm (W X H X D)
ST10-M1(IP)	Sequential Switching 10 channels with IP Enclosure				
ST10-M2(IP)			0.01Secs to 99Hrs 59Mins	Triac O/p for each channel**	
ST15-M2[1,3,4,5]	Sequential Switching 15 channels	85V to 270V AC	0.01Secs to 99Hrs 59Mins	Triac O /p for each channel**	200 x 130 x 45mm (W X H X D)
ST15-M2(IP) [1,3,4,5]	Sequential Switching 15 channels with IP Enclosure				291 x 214 x 68mm (W X H X D)

Optional[$]

ST6-M1	Sequential Switching 6 channels	24V DC	0.1Secs to 99Hrs 59Mins	1c/o NO Relay for each channel	200 x 130 x 45mm (W X H X D)
ST6-M1(IP)	Sequential Switching 6 channels with IP Enclosure				291 x 214 x 68mm (W X H X D)
ST10-M1	Sequential Switching 10 channels				200 x 130 x 45mm (W X H X D)
ST10-M1(IP)	Sequential Switching 10channels with IP Enclosure				291 x 214 x 68mm (W X H X D)
ST6-M2	Sequential Switching 6 channels	85V to 270V AC / DC		1c/o NO Relay for each channel. 1c/o NO Relay each for timer ready, time in progress and timer On	200 x 130 x 45mm (W X H X D)
ST6-M2(IP)	Sequential Switching 6 channels with IP Enclosure				291 x 214 x 68mm (W X H X D)

**: Suitable for 240V AC / 110V AC loads only. | $: Availability will be for bulk quantity
1: Repeat Cycles only | 2: On/Off Time selection is common for all relays | 3: Healthy continuous non potential start signal for operation |
4: Healthy Continuous non potential differential pressure signal to operate timer | 5: Time inhibit, cascading of units not applicable.

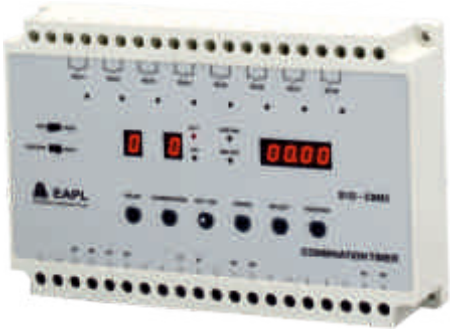
Combination Timers operate multiple loads in a predefined program sequentially or non-sequentially with or without overlapping. They are capable of using the same load in a given cycle more than once.

Micro controller designed, these instruments are compact and short depth with tact switches in the front to help user friendly programming with a maximum of 64 programs. Comprising of multifarious features, they enable a multiple range of applications.

Combination Timers

Features

- Hold /Restart –User Selectable.
- Non potential pulse start signal for initiation.
- High brightness seven-segment red LED for channel combination & time display.
- LED indications to select DELAY/ON time range during programming and relay status during operations.
- User Selection for single/repeat cycle.
- Time inhibit / Pause.



Applications

- Air dryers, Nitrogen and other gas plants, Process industries and many more.

Ordering Information
Regular

Model	Function	Source Voltage	Time Selection	Output	Dimensions
S1DC8-M3[1]	Combination Switching 8 channels, 8 Combinations	85V to 270V AC / DC	0.1Secs to 99Hrs 59Mins	1C/o NO Relay for each Channel	200 x 130 x 45mm (W X H X D)

Optional[$]

S1DC8-M3[1]	Combination Switching 8 channels, 8 Combinations	12V DC	0.1Secs to 99Hrs 59Mins	1C/o NO Relay for each Channel	200 x 130 x 45mm (W X H X D)

$: Availability will be for bulk quantity. 1: Erasing of entire programs to default values is possible by shorting reset terminals.

Time switches are control devices that switch ON loads with reference to real time and then operate for a predefined duration irrespective of power failure operation.

Digital Time Switches

Features

- Allows user to activate clock buttons during programming.
- Manual over riding possible.

Applications

- Street lighting, Advertising boards, DG sets, Pumps, Compressors, Exhaust fans, ATM air conditioners and many more.

Ordering Information
Regular

Model	Function	Source Voltage	Output	Over-All Dimensions	Cut-Out Dimensions
TS-203[1]	Digital Daily Time Switch with 4 Program	240V AC	1 C/o, 16A resistive	72 X 72 X 84mm (W X H X D)	69 X 69mm (W X H)
TS-203R[2]					
TS-203B[1,3]				110 X 86 X 68mm (W X H X D)	NA

Optional[$]

TS-203A[1,4]	Digital Daily Time Switch with 4 Program	240V AC	1 C/o, 20A resistive	195 X 96 X 155mm (W X H X D)	NA
TS-203B[1,3]		12V DC / 24V DC / 110V AC	1 C/o, 16A resistive	110 X 86 X 68mm (W X H X D)	
TS-203[1]		24V DC		72 X 72 X 84mm (W X H X D)	69 X 69mm (W X H)

$: Availability will be for bulk quantity 1: Real time clock operates on external batteries | 2: Inbuilt rechargeable battery | 3: Allows user to activate program buttons during programming | 4: Provision to connect 2 loads separately.

Preset counters are used for counting components produced or counting the number of strokes in a given process. EAPL range of preset counters that come with attractive UL rated fire retardant, compact plastic enclosure are available in various sizes. With provision to program the required counts, they operate in ascending order from 0 to set value. On achieving the set counts, the inbuilt relay change its status allowing the user to accomplish logics as required by the system.

Preset Counters

Features

- Hold / Restart user selectable.
- Input sensing-proximity, potential free signals.

Applications

- Injection molding machine Granite processing machines, Packaging / Printing machines Hot stamping machines and many more.

Ordering Information

Model	Function	Source Voltage	Range	Output	Over-All Dimensions	Cut-Out Dimensions
CT-5	Preset counter (LED Display), 5 digits	85V AC to 270V AC / DC	1 to 99,999 counts	1 C/o, 5A resistive	72 x 72 x 128mm (W X H X D)	69 x 69mm (W X H)
H3CT-5U[1]					48 x 48 x 95.5mm (W X H X D)	46 x 46mm (W X H)
H3CT-6U	Preset counter (LED Display), 6 digits		1 to 9,99,999 counts		98 x 50 x 79mm (W X H X D)	92 x 46mm (W X H)

1. Frequency of counts programmable

Digital Tachometers also known as RPM meters, are designed to measure revolutions per minute (RPM) of any rotating surface. EAPL offers digital hand-held non-contact type tachometers that are manufactured using world class technology. The input sensing is through reflective beam falling on reflective sticker.

Digital Non Contact Tachometer

Features

- Portable, Light weight, strong and elegant ABS enclosure
- Last reading memory retention
- High Accuracy and resolution

Applications

- Motors, Pumps, Generators, Engine and many more

Ordering Information

Model	Function	Source Voltage	Range	Over-All Dimensions
DT-2001B	Digital Hand Held Non Contact Tachometer	6V DC (4 x 1.5V, AA size battery)	1 to 99,999RPM (with one reflecting mark)	72 x 170 x 38mm (W X H X D)

Note: Calibration certificate with NABL standard traceability.

Temperature Series

Temperature controllers measure the temperature of a given object / system by means of thermocouple / sensor and controls the same within specified limits through in-built relays switching ON and OFF the heating / cooling devices.

EAPL's range of temperature controllers are characterized by accuracy. They come with attractive UL graded flame retardant sturdy plastic enclosure of different sizes to monitor the process value against the set value.

A new range with sleek designs has already been rolled out.

Universal Temperature Controller

Features

- Program lock is available to lock all programs except temperature setting.
- Temperature offset is available in most of the models (Refer Note 1).
- Dual set point models available in heater/alarm type.
- Multifunction temperature controller models have all features rolled into one

Applications

- Furnace, Heat Treatment Equipment Oven, Boilers, Plastic and Rubber Machinery and many more.

Ordering Information
Regular

Model	Function	Source Voltage	Sensor	Range	Output	Over-All Dimensions (W x H x D)	Cut-Out Dimen.(WxH)
H3TX-Ua[3,4]	On-Off / Self-Tune Function (Single Set Point)	85V to 270V AC / DC	J K PT-100 (Self-Tune)* PT-100 (On-Off)	0°C - 600°C 0°C - 1200°C 0°0C - 400°C -100°C - 400°C	1 relay 1c/o, 5A resistive	48 x 48 x 95.5mm	46 x 46mm
TX7-Ua[3,4]						72 x 72 x 128mm	69 X 69mm
EX9-Ua[3,4,5]						96 x 96 x 95.5mm	92 x 92mm
H3TX-2U[3]						48 x 48 x 95.5mm	46 x 46mm
TX7-2U						72 x 72 x 128mm	69 X 69mm
EX9-2U[3,5]						96 x 96 x 95.5mm	92 x 92mm
H3TX-2H-U[1]	On-Off - Heater type Function (Dual Set Point)		J K PT-100 (On-Off)	0°C - 600°C 0°C - 1200°C 0°C - 300°C	2 relay 1c/o, 5A resistive	48 x 48 x 95.5mm	46 x 46mm
TX7-2H-U[1]						72 x 72 x 128mm	69 X 69mm
EX9-2H-U[1]						96 x 96 x 95.5mm	92 x 92mm
H3TX-2A-U[1]	On-Off - Alarm type Function (Dual Set Point)					48 x 48 x 95.5mm	46 x 46mm
TX7-2A-U[1]						72 x 72 x 128mm	69 X 69mm
EX9-2A-U[1]						96 x 96 x 95.5mm	92 x 92mm
H3TX-MU[3,5]	Multi function Temperature Controller On-Off-Forward and Reverse Type (Dual Set Point)		J K PT-100	0°C - 600°C 0°C - 1200°C 0°C - 400°C	relay 1 - 1c/o, 5A relay 2 - 1c/o, 3A	48 x 48 x 95.5mm	46 x 46mm
EX9-MU[3,5]						96 x 96 x 95.5mm	92 x 92mm
H3TX-MU-RS[2,3,5]	Multi function Temperature Controller On-Off - Forward and Reverse Type (Single/ Dual Set Point)with SSR and Relay output		J K PT-100	0°C to 600°C 0°C to 1200°C 0.0°C to 400.0°C	2 relay 1C/o, 5A resistive 12V DC to drive SSR	48 x 48 x 95.5mm	46 x 46mm
EX9-MU-RS[2,3,5]						96 x 96 x 95.5mm	92 x 92mm
H3TX-U-RS[2,3,4]	On-Off / Self-Tune Function (Single Set Point) with SSR and Relay output		J TYPE K TYPE PT100(ON/OFF) PT100(SELF TUNE)*	0°C to 600°C 0°C to 1200°C -100°C to 400°C 0°C to 400°C	1 relay 1c/o, 5A resistive, 12V DC to drive SSR	48 x 48 x 95.5mm	46 x 46mm
EX9-U-RS[2,3,4]						96 x 96 x 95.5mm	92 x 92mm
H3TX-2U-RS[2,3]			J K PT-100	0°C - 600°C 0°C - 1200°C 0°C - 400°C	1 relay 1c/o, 5A resistive, 12V DC to drive SSR	48 x 48 x 95.5mm	46 x 46mm
EX9-2U-RS[2,3]						96 x 96 x 95.5mm	92 x 92mm

* : Hysteresis not applicable | 1: Temperature offset is not available | 2: Both relay and SSR drive outputs available | 3: Now available in reduced depth with redesigned cabinet for better aesthetics and eliminating protective cover yet retaining the IP Class | 4: Single display window height has been increased for longer visibility | 5: Minimum and Maximum temperature user settable for ease of setting set values.

Heater / Reverse: Both relays change over to NO at room temperature. Relay1 reverts back to NC at 1st set point. It once again changes over to NO when temperature falls by 1st Set point minus hysteresis1. Relay2 reverts back to NC at 2nd set point. It once again changes over to NO when temperature falls by 2nd Set point minus hysteresis2.

Alarm / Forward: First relay changes over to NO at room temperature and reverts back to NC at 1st set point. It once again changes over to NO when temperature falls by the respective Set point minus hysteresis1.The 2nd relay switches ON at 2nd set point and will switch OFF when temperature falls below the 2nd set point - hysteresis2.

Switch Mode Power Supplies

Switch mode power supplies incorporate a switching regulator for efficient conversion of electric power. EAPL offers SMPS from a wide -band single phase AC to low ripple and low harmonics DC supply.

Features

- Regulated Voltage.
- Output Voltage fine tuning in select models.
- Protection against over voltage, over load and short circuit.

Applications

- PLC, DC panels, DC solenoids, DC relay boards, Battery charging panels and many more.

Ordering Information
Regular

Model	Function	Input Voltage	Output	Over-All Dimensions (W X H X D)
MS-01[1]	Switch Mode Power Supply	192V - 264V AC	24V DC, 1A, 24W/ 12V DC, 1A, 12W	45.5 x 77.4 x 116mm
MS-02		170V - 300V AC	24V DC, 2.1A, 50W / 24V DC, 1.46A, 35W / 24V DC, 1.04A, 25W / 24V DC, 0.63A, 15W /15V DC, 2.1A, 31.5W 12V DC, 4.2A, 50W / 12V DC, 2.9A, 35W / 12V DC, 2.08A, 25W / 12V DC, 1.25A, 1 5W /5V DC, 6A, 30W / 5V DC, 5A, 25W /5V DC, 3A, 15W	110 x 86 x 71mm
MS-03			24V DC, 5A, 120W	155 x 88 x79mm
MS-05[1]			5V DC, 1A, 5W	22.5 x 75 x 96.5mm

1: Output Voltage fine tuning not applicable for MS-01, MS-05.

Annunciators

Programmable fault annunciator distinguishes the fault and annunciates the specified faults visually and audibly. Based on the Annunciation, you can take steps against intricate faults to secure the system.

EAPL annunciators are sleek, compact and light. They come in UL rated flame retardant sturdy ABS plastic cabinets. They hold a cluster of SMD LED bulbs for each window. The windows glow slides/caps can be replaceable at site based on colour requirement. For programming fault input configuration and required relay output, tact switches are used with corresponding terminals as alternate. The same tact buttons and corresponding terminals are used to change the status of fault – mute, acknowledge, reset and test during operation

Annunciators

Features

- Sequence of operation - Manual /Auto Reset / Manual Reset with ring back/FIFO - User Selectable (Refer Note 2).
- RS-485 Mod-bus communication available in select models. (Refer Note 1).
- Additional 2 relays available in windows 12 to 24 for Aux supply fail, Hooter & Standby supply fail.

Applications

- C&R panels, Transformer panels, DG set panels, Fire annunciation panels, Instrumentation panels and many more

Ordering Information
Regular

Model	No of Windows	Aux. Supply	Stand By Voltage	Output	Input	Window Size (W x H)	Over-All Dimensions	Cut-Out Dimensions
M2-4[2]	4 Windows	85V to 270V AC/DC (or) 18V to 90V AC/DC	N A	2 relays 1c/o (C-NO), (trip / Alarm)	4 potential free fault inputs	66 x 27.5mm	73.5 x 142.5 x 78 mm (W x H x D)	69 x 141 mm (W x H)
M2-6[2]	6 Windows				6 potential free fault inputs	2 windows:- 66 x 27.5mm, 4 windows:- 31.5 x 27.5mm		
M2-8[2]	8 Windows				8 potential free fault inputs	31.5 x 27.5mm		
M2-12	12 Windows	85V to 270 V AC/DC	12V DC	2 relays 1c/o (NC-C-NO), (trip/Alarm), 2 relays 1c/o (C-NO) (Hooter, AC Fail)	12 potential free fault inputs	63 x 28mm	291 x 187 x 79mm (W x H x D)	285 x 181mm (W x H)
M2-16/16a	16 Windows				16 potential free fault inputs	28 x 28mm & 63 x 28mm		
M2-20	20 Windows				20 potential free fault inputs			
M2-24	24 Windows				24 potential free fault inputs	28 x 28mm		

Optional[$]

M2-2	2 Windows	85V to 270V AC/DC 18V to 90V AC/DC	NA	2 relays 1c/o (C-NO), (trip / Alarm)	2 potential free fault inputs	66 x 58mm	73.5 x 142.5 x 78mm (W x H x D)	69 x 141 mm (W x H)
M2-12/16a/ 20/24	12/16/20/24 Windows	24-48V DC	12V DC	2 relays 1c/o (NC-C-NO), (trip/Alarm), 2 relays 1c/o (C-NO) (Hooter, AC/DC Fail)	12/16/20/24 potential free fault inputs	M2-12/ M2-12R: 63 x 28mm M2-16/ M2-16R: 63 x 28mm, 28 x 28mm M2-16/ M2-24/M2-24R: 28 x 28mm	291 x 187 x 789mm (W x H x D)	285 x 181mm (W x H)
M2-12/16/24	12/16/24 Windows	24-48V DC	85-270V AC/DC		12/16/24 potential free fault inputs			
M2-12/16/24	12/16/24 Windows	85-270V AC/DC	85-270V AC/DC					
M2-12 R[1]/ 16 R[1]/24R[1]	12/16/24 Windows	85-270V AC/DC	12V DC	2 relays 1 c/o (NC-C-NO), (trip / Alarm) 2 relays 1c/o (C-NO) (Hooter, AC Fail) RS 485 Port				

$: Availability will be for bulk quantity. 1 : Annunciators with RS485 mod-bus RTU protocol to communicate healthiness/Unhealthiness of each specified parameters | 2 : Only Manual / Auto reset available in basic Models

Annunciators


1D


2D


3D

Features

- Elegant, compact & lightweight.
- ABS enclosures with UL 94 based flame-retardant plastic enclosure.
- Master and slave units are available in 4,6 & 8 windows.
- The annunciator model is configured to have a master unit cascaded with required slave units to achieve the specified no of windows.
- A cluster of Low power, long life super bright white SMD LED's for fault indications.
- Site selectable fault input signals and output relays for each window.
- Incorporates a built-in buzzer in addition to fault alarm relay output.
- User-selectable sequence of operations-Manual/Auto reset/ Manual reset with ring back / FIFO.
- Available with program lock facility.
- RS485 communication output with field selectable device Ids.

Applications

- C & R panels, Transformer panels, DG set panels, Fire annunciation panels, Instrumentation panels and many more.

Ordering Information - Regular

Model	No of Windows	Product size	Aux. & Standby Voltage	Output	Window sizes (W x H) in mm	Over-All Dimensions	Cut-Out Dimensions
M3-4	4	1D	85-270V AC/DC & 12V DC OR 85-270V AC/DC & 85-270V AC/DC OR 24-48V AC/DC & 12V DC OR 24-48V AC/DC & 85-270V AC/DC	Trip Relay- (C-NC-NO), Alarm Relay- (C-NC-NO), Aux. fail Rly- (C, NO), Hooter Rly- (C, NO).	4 Bigger windows 68.0 X 31.0	72 x 144 x 121 mm (W x H x D)	66 x 139 mm (W x H)
M3-6	6				2 Bigger windows 68.0 X 31.0 4 Smaller windows 34.0 X 31.0		
M3-8	8				8 Smaller windows 34.0 X 31.0		
M3-8	8	2D			8 Bigger windows 68.0 X 31.0	144 x 144 x 121 mm (W x H x D)	139 x 139 mm (W x H)
M3-12	12				4 Bigger windows 34.0 X 31.04 8 Smaller windows 68.0 X 31.0		
M3-16	16				16 Smaller windows 34.0 X 31.0		
M3-12	12	3D			12 Bigger windows 68.0mm X 31.0	216 x 144 x 121 mm (W x H x D)	212 x 139 mm (W x H)
M3-20	20				4 Bigger windows 68.0 X 31.0 16 Smaller windows 34.0 X 31.0		
M3-24	24				24 Smaller windows 34.0 X 31.0		

Ordering Information - Optional

Model	No of Windows	Product size	Source & Stand By Voltage	Output	Window sizes (L x H) in mm	Over-All Dimensions	Cut-Out Dimensions
M3-4R	4	1D	85-270V AC/DC & 12V DC OR 85-270V AC/DC & 85-270V AC/DC OR 24-48V AC/DC & 12V DC OR 24-48V AC/DC & 85-270V AC/DC	Trip Relay- (C-NC-NO), Alarm Relay- (C-NC-NO), Aux. fail Rly- (C, NO), Hooter Rly- (C, NO), RS 485 Communication port.	4 Bigger windows 68.0 X 31.0	72 x 144 x 121 mm (W x H x D)	66 x 139 mm (W x H)
M3-6R	6				2 Bigger windows 68.0 X 31.0 4 Smaller windows 34.0 X 31.0		
M3-8R	8				8 Smaller windows 34.0 X 31.0		
M3-8R	8	2D			8 Bigger windows 68.0 X 31.0	144 x 144 x 121 mm (W x H x D)	139 x 139 mm (W x H)
M3-12R	12				4 Bigger windows 34.0 X 31.04 8 Smaller windows 68.0 X 31.0		
M3-16R	16				16 Smaller windows 34.0 X 31.0		
M3-12R	12	3D			12 Bigger windows 68.0mm X 31.0	216 x 144 x 121 mm (W x H x D)	212 x 139 mm (W x H)
M3-20R	20				4 Bigger windows 68.0 X 31.0 16 Smaller windows 34.0 X 31.0		
M3-24R	24				24 Smaller windows 34.0 X 31.0		

Note 2: Available window colors - Red / White / Amber / Green.

Electronic Solid State Buzzer

Features

- Low Power Consumption.
- Three user selectable ring tones.
- Generates no radio frequency signal.

Applications

- Electrical Control Panels, Automation Panels, Safety devices, Annunciators, Audio-visual warnings, Emergency Warning, Banks & commercial premises, Warning systems

Ordering Information

Model	Function	Source Voltage	Audio Output range	Over-All Dimensions (W X H X D)	Cut-Out Dimensions (W X H)
ESB-01	Audio Alarm	240VAC/110VAC	90db to 110db	96 x 96 x 88.5 mm	92 x 92 mm

Energy Meters

EAPL Energy meters measure either individual electric parameter or many parameters in the same instrument and communicates through RS 485 Mod-bus RTU protocol. They can also be connected in specified models through Wi-Fi, digital internet clouds etc to the utility operator.

They are designed to monitor continuous usage for maximum power-efficiency. EAPL offers 3 phase, 4 phase basic, multifunction and demand meters which come in glass filled plastic enclosures having IP51 rating.

Basic Meters

Features

- Program enable-User Selectable.
- High brightness seven segments LED display for numeric values of the specified parameters.
- LED indications to display Voltages(L-L, L-N), Current (L-N) in meters as specified.

Applications

- Distribution panels, HT / LT panels, DG panels and many more.

Ordering Information

Model	Function	Source Voltage	Display Parameters	Over-All Dimensions (W X H X D)	Cut-Out Dimensions (W X H)
EMS-11[1,3]	Ammeter	240V AC/ 110V AC	A(R, Y, B)	96 x 96 x 95.5mm	92 x 92 mm
EMS-12[2,3]	Voltmeter		V(R, Y, B), V(RY, YB, BR)		
EMS-13[4]	Frequency Meter		Hz. (Avg)		
EMS-18[1,2,4]	VAF Meter	85V - 270V AC / DC	V(R, Y, B), V(RY, YB, BR), A(R,Y, B), Hz		

1: CT primary & secondary programmable | 2: PT primary & secondary programmable | 3: Accuracy class - 1.0, 0.5 | 4: Accuracy class -1.0

Basic Meters

Features

- Sleek and compact design.
- High brightness seven segments LED display for numeric values of the specified parameters.
- LED indications to display Voltages(L-L, L-N), Current (L-N) in meters as specified.

Applications

- Distribution panels, HT / LT panels, DG panels and many more.

Ordering Information

Model	Function	Source Voltage	Display Parameters	Over-All Dimensions (W X H X D)	Cut-Out Dimensions (W X H)
EMS-11a[1,3]	Ammeter	240V AC	A(R, Y, B)	98 x 50 x 79mm (W x H x D)	92 x 46 mm (W x H)
EMS-12a[2,3]	Voltmeter		V(R, Y, B), V(RY, YB, BR)		
EMS-13a[4]	Frequency Meter		Hz. (Avg)		

1: CT primary & secondary programmable | 2: PT primary & secondary programmable | 3: Accuracy class - Class 1/ Class 0.5
4: Accuracy class - ±1% of FS ±1digit

Features

- Sleek and compact design.
- High brightness red LED display

Ordering Information

Model	Function	Source Voltage	Display Parameters	Over-All Dimensions (W X H X D)	Cut-Out Dimensions (W X H)
DPM-01[1]	Single phase Voltmeter & Ammeter	240V AC	Voltage, Ampere	96 x 50 x 79 mm	92 x 46mm

1 : Accuracy class - Class 1

Multifunction Energy Meters




Features

- CT primary and secondary user selectable
- PT primary and secondary user selectable
- Program is password protected.
- Accuracy Class: 1.0 / 0.5.
- High brightness alpha numeric LED display for parameters and numeric for corresponding values.

Applications

- Sub metering panels, Distribution panels, HT / LT panels and DG panels and many more.

Ordering Information
Regular

Model	Function	Source Voltage	Display Parameters		Over-All Dimensions	Cut-Out Dimensions
EMS-01	3 Phase Multi Function Meter with RS 485	85V to 270 V AC/DC	Basic	V(R,Y,B), V(RY,YB,BR), A(R,Y,B), Hz, PF(R,Y, B,T), Phase Angle(R,Y, B), RPM, W(R, Y, B,T), VAr(R,Y, B,T), VA(R,Y, B, T), Device ID (Communication Status)	96 x 96 x 95.5mm (W x H x D)	92 x 92 mm (W x H)
EMS-01x[2]	3 Phase Multi Function Meter with wifi	240 V AC/DC	Total	KWhT, KVrhCT, KVrhIT, KVAhT, LT (Load Hours Total)		
			Import	KWhI, KVrhCI, KVrhII, KVAhI, LI (Load Hours Import)		
			Export	KWhE, KVrhCE, KVrhIE, KVAhE, LE (Load Hours Export)		
			Old-Total	KWhT, KVrhCT, KVrhIT, KVAhT, LT (Load Hours Total)		
			Old-Import	KWhI, KVrhCI, KVrhII, KVAhI, LI (Load Hours Import)		
			Old-Export	KWhE, KVrhCE, KVrhIE, KVAhE, LE (Load Hours Export).		
			THD (available in EMS-01T)	Voltage (%) (R, Y, B), Ampere (%) (R, Y, B)		
EMS-01T[3]	3 Phase Multi Function Meter with THD	85V to 270 V AC/DC	W(T), PF(T), KWh, MWh, Device ID (Communication Status)			
EMS-03	KWH Meter		V(R,Y,B), V(RY,YB,BR), A(R,Y,B), Hz, PF(R,Y,B,T), W(R,Y, B,T), KWh, MWh, LH, OKWh, OMWh, OL, Device ID (Communication Status)			
EMS-09	Basic / Energy Meter		V(R,Y,B), V(RY,YB,BR), A(R,Y,B), Hz, PF (R,Y, B,T), W(R,Y,B,T), V A, KVAh, KWh, MWh, LH, Device ID (Communication Status)			
EMS-09m	Basic /Energy Meter with 2 Event Counter		V(R,Y, B), V(RY,YB, BR), A(R,Y,B), Hz, PF(R,Y, B,T), RPM*, Phase angle(R, Y, B), W(R,Y, B,T), KWh(M), MWh(M), KVAh(M), LH(M), KWh(G), MWh(G), LH(G) All energy parameters are available in-Mains(M) and generator mode(G), KVA, KVAh(G&M)			
EMS-17[1]	Dual Source Energy Meter					

1: Separate Mains and Generator registers are available for energy load on hour's parameters. | 2: RS 485 communication is not available, instead it will be through Wi-Fi, device id display also will not be available | 3: THD applicable only for EMS-01T.

Maximum Demand Meters

Features

- High brightness alpha numeric LED display for parameters and numeric for corresponding values.
- Automatic CT reverse correction for energy and demand.
- Programmable demand techniques block / sliding window.
- Programmable demand parameters Apparent / Active power.
- Programmable demand range Kilo / Mega.
- Programmable Alarm / hysteresis settings.
- Programmable RTC setting to match EB meter's clock.
- EMS-15C Max. Demand Controller = Max. Demand Indicator + Relay module (4 relay) (RR-4).
- 4 control outputs (C-NO) for alarm and trip settings.
- Class of Accuracy – Cl. 1.0 for KWh Cl. 2.0 for KVARh

Applications

- In-comer distribution panels.

Ordering Information
Regular

Model	Function	Source Voltage	Display Parameters		Over-All Dimensions (W X H X D)	Cut-Out Dimensions (W X H)
EMS-15	Maximum Demand Indicator	170V to 270V AC / DC	Basic	V(R, Y, B), V(RY, YB, BR), A(R,Y, B), Hz, RTC Time	96 x 96 x 117mm	92 x 92 mm
EMS-15C	Maximum Demand Controller		Power	PF(R, Y, B, T), W(R, Y, B, T), VAr(R, Y, B,T), VA(R, Y, B, T)		
			Integral	KWh, KVArh-C, KVArh-I, KVAh, LH		
			Demand	Md (Fixed / Sliding), Md Time (Fixed / Sliding), Wd (Fixed / Sliding), Rd (Fixed), Elapsed Time (Fixed / Sliding)		

DC Multifunction Meters

Features

- Micro Controller based 3 Channel DC Energy Meter. (Refer Note 1)
- Programmable Shunt ratios.
- Alphanumeric display for Parameter & numeric display values.
- RS-485 serial port with Mod-bus RTU output.

Applications

- DC rectifier systems, Battery panels, DC distribution solar panels, DC loads, DC motors and many more.

Ordering Information
Regular

Model	Function	Source Voltage	Display Parameters		Input Voltage	Over-All Dimensions (W X H X D)	Cut-Out Dimensions (W X H)
SNM-01	DC Multi Function meter	85V-270V AC / DC	load 1	V, A, KW, KWh, MWh, LH	80V DC to 220V DC	96 x 96 x 95.5mm	92 x 92 mm
SNM-02		24V-48V DC	load 2	V, A, KW, KWh, MWh, LH	21V DC to 50V DC		
			load 3	V, A, KW, KWh, MWh, LH			
			Old	KWh, MWh, LH (load1, Load2, load 3)			
			communi -cation	Communication status, Dev Id			
SNM-03[1]		85V-270V AC / DC		V, A, KW, KWh, MWh, LH, OLd KWh, OLd MWh, OL, DEV Id	5V DC to 1000V DC		
DCM-01[1]	Bi-Directional Solar Energy Meter		Main	V, ±A, ±KW, F-KWh, F-MWh, F-Load on Hours, RA, R-KW, R-KWh, R-MWh, R-Load on Hours, Device ID & Communication Status	5V DC to 1000V DC	96 x 96 x 95.5mm	92 x 92 mm
			Old Energy	F-KWh, F-MWh, F-Load on Hours, R-KWh, R-MWh, R-Load on Hours			

1: Only Single Channel Available

Converter

Features

- Aux. supply - wide voltage and frequency range.
- Compactable baud rate - 2400, 4800, 9600, 19200 bps.
- Max. no of nodes - 32.
- Max. cable length (RS-232 side) - 15mtrs typical.
- Max. cable length (RS-485 side) - 1000mtrs typical.
- Mounting - Din-rail.
- LED indication for power, R and T inputs.

Applications

- Converting RS485 into RS232 and vice versa.

Ordering Information
Regular

Model	Function	Source Voltage	Over-All Dimensions (W X H X D)
EA232/485	Converter	85V to 270V AC / DC	117 x 86 x 61mm

Monitoring Devices

Also known as protection relays and single phase preventers, they help the user to monitor the functionality of given power parameters and control the same by taking appropriate action through relay output. Both analog and digital versions are available. While analog versions come with few parameters and factory set values, digital versions are more versatile helping the user to select the parameters and limits. These units display functional faults and help user to monitor the instant values while functioning faultlessly.

Single Phase Preventer

Features

- Resetting possible in manual mode from front button / rear terminals.

Applications

- Motors, pumps, generators and Compressor panels and many more.

Ordering Information
Regular

Model	Function	Input Voltage	Output	Over-All Dimensions (W X H X D)
PMD-01	Phase Unbalance, Phase Failure, Phase Sequence, Under Voltage, Monitor & Control	440V AC 3phase, 3 wire, Self powered	1 c/o, 5A resistive	45 x 75 x 116mm
PMD-02	Phase Sequence, Phase Failure, under voltage Monitor and Control	415V AC 3phase, 3 wire, Self powered		22.5 x 75 x 96mm
PMD-03				17.5 x 89 x 62mm
SPP-T[1]	Phase Unbalance, Phase Failure, Phase Sequence, Monitor & Control	415V AC 3phase, 3 wire, Self powered		45 x 75 x 116mm

1: Auto/Manual switch provided

Under Voltage Relay

Features

- Slim and Compact design.
- Suitable for Din Rail Mounting.
- Finger guards for Safety.
- Delay time can be set for resuming auxiliary power to the load on its achieving healthiness.
- Whenever unhealthiness (under voltage) occurs, the relay will immediately trip the output circuit.

Applications

- For Air Conditioning, Elevator and many more.

Ordering Information

Model	Function	Input Voltage	Time Selection	Output	Over-All Dimensions
ETR-01	Under Voltage Time Relay (ON Delay)	415V AC 3P/4W Self powered	5Min to 15 Min	1C/O Relay	17.8 X 90 X 65mm (W x H x D)
ETR-02		230V AC			

·These units trip instantaneously on becoming unhealthiness and resumes after the set delay time on achieving healthiness.

Reverse Power Device

Features

- Din Rail mounting.
- Auto / Manual mode.
- Front button resetting facility is available in manual mode.
- LED indication for relay status.
- Window displays the type of fault that has occurred during unhealthy condition.
- Trip delay time and limits for each parameter can be set digitally.
- Unwanted parameters can be by-passed as per User's choice.
- Relay can be configured to have NO or NC status during healthy condition.
- Terminals to connect the 1 phase CT are provided.
- Monitors and trips the circuit after the set trip delay time whenever any power unhealthiness (under voltage, over voltage & reverse current) occurs.
- Displays the 1 phase voltage (Line to neutral) 1 phase current during healthy condition.
- CT primary can be programmed up to 500 in steps of 5. CT secondary will be factory set for 5.
- Unit will retain fault till accepted in manual mode.
- Factory set hysteresis to recover from Reverse Power.

Applications

- Solar Panel applications, Generator Panel and etc.

Ordering Information

Model	Function	Input Voltage	Output	Over-All Dimensions
RPD-01	Reverse Power Device	85V - 270V AC, self powered	1 c/o 5A	76 x 78 x 115mm

Digital Monitoring Devices

Features

- Manual /auto reset on achieving healthiness-user selectable.
- LED indication for power, relay status and fault condition.
- Displays type of fault whenever unhealthiness occurs.
- Continues to display latest fault even after healthiness is attained in manual mode till unit is manually reset.
- Trip delay time and limits of each parameter can be set digitally.
- Program Enabling- User Selectable.
- Relays NO/NC status during healthy condition – User Selectable.
- Required parameters can be user selected.

Applications

- Any 3 phase 4wire systems like motors, pumps, generators / distribution / MCC panels, air conditioners, elevators, cranes, escalators and many more.

Ordering Information
Regular

Model	Function	Input Voltage	Output	Over-All Dimensions (W X H X D)	Cut-Out Dimensions (W X H)
PVMD[1,4a,5a]	Phase Voltage Monitoring Device	415V AC 3 phase, 4 wire, Self powered	1 c/o, 10A resistive	96 x 96 x 95.5mm	92 x 92mm
PVMD-G[2,4a,5a]				76 x 78 x 115mm	NA
PVIMD[1,3,4b,5b]	Phase Voltage Current Monitoring Device			96 x 96 x 95.5mm	92 x 92mm
PVIMD-G[2,3,4b,5b]				76 x 78 x 115mm	NA
PVIMD-R[1,3,4c,5b]	Phase Voltage Current & Energy Monitoring Device 415V AC 3 phase, 4 wire with RS485	415V AC 3 phase, 4 wire & auxiliary supply 85-270 V AC/DC	2 c/o, 5A resistive	96 x 96 x 95.5mm	92 x 92mm
PMR-01[1,3,4d,5c]	Power Monitoring Relay	415V AC 3phase, 4 wire, self powered	1 c/o 10A resistive	96 x 96 x 95.5mm	

1: Panel Mounting | 2: Din rail mounting |3: Nominal current and inrush time user programmable. CT primary user selectable secondary default is 5 |
4: Displays the following parameters during healthiness by the following models:
a) PVMD/PVMD-G: 3-phase voltage L-L, L-N
b) PVIMD/PVIMD-G: 3-phase voltage L-L, L-N, Current L-N
c) PVIMD-R: 3-phase voltage L-L, L-N, Current L-N, frequency, PF, active power, active energy
d)PMR-01: 3-phase voltage L-L, L-N, Current L-N, frequency |
5: Monitors and displays the following parameters during unhealthiness by the following models.
a) PVMD, PVMD-G : Monitors and trips the circuit after the set trip delay time when ever power unhealthiness (phase failure, phase sequence, phase unbalance under voltage or over voltage) occurs.
b) PVIMD, PVIMD-G, PVIMD-R: Monitors and controls any 3 phase 4 wire circuit after the set trip delay time when ever power unhealthiness (phase failure, phase sequence, phase unbalance under voltage, over voltage, under current or over current) occurs.
c) PMR-01: Monitors and trips the circuit after the set trip delay time when ever power unhealthiness (phase failure, phase sequence, phase unbalance under voltage, over voltage, under frequency, over frequency or earth leakage current, under current, over current) occurs.

Submersible Pump Controller

Features

- Elegant, compact & lightweight.
- UL 94 based flame-retardant plastic ABS enclosures..
- Digital meter displaying volts and amps.
- 240V AC, 2pole 20A, contactor
- MCB for short circuit protection.
- Independent Switches and an indicating lamp for ON and OFF functions
- Start & Run capacitors.

Ordering Information

Model	HP	MCB rating @ 240V AC	Start Capacitor (μF)	Run Capacitor (μF)
CP-05a	1	10A	120	50
CP-05b	1.5	16A	120	60
CP-05	2	16A	150	72

Photo Sensing Relay

Features

- Design for industrial environment.
- High intensity pulse infra red emitter.
- Time Delay up to 20 Sec.
- Highly immune to Ambient light.
- Din rail mounting

Applications

- Textile industries.

Ordering Information

Model	Function	Source Voltage	Time Selection	Output	Over-All Dimensions
EALS-1003	Photo sensing & Control relay	240V AC	2Sec to 20Sec	1 C/O rated for 5A@ 250V AC/28VDC	145 x 75 x 116mm (W x H x D)
EAPRE-01	Photo sensing & Control relay - Emitter Probe	NA	NA	NA	19.2 x 35.5 x 1257.5mm (W x H x D)
EAPR R-01	Photo sensing & Control relay - Receiver Probe	NA	NA	NA	

Light Switch

Features

- This is a light switch working on direct or reflective transmission principle.
- It consists of high intensity emitter source and high sensitive receiver.
- The signal received from the receiver will operate a relay with ON delay or OFF delay depending on mode selected.
- The time range can be 0.3 sec / 30 sec.

Applications

- Textile industries.

Ordering Information

Model	Function	Source Voltage	Time Selection	Output	Over-All Dimensions
EALS-4505	Electronic Stop Motion Light Switch	240V AC	2Sec to 20Sec	1 C/O rated for 5A@ 250V AC/28VDC	145 x 75 x 116mm (W x H x D)
EALSE-01	Photo sensing & Control relay - Receiver Probe	NA	NA	NA	
EALSR-01	Electronic Stop Motion Light Switch - Receiver Probe	NA	NA	NA	

EAPL - Global presence

Note

1. Design & Specification are subject to change without notice
2. User is recommended to confirm the suitability of EAPL product range for intended application
3. Customer should take safety precaution with regards to high voltage/ current etc.. (i.e, should not apply more than the specified limits)
4. EAPL is not responsible for consequential damage out of use of its products.

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EAPL

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