

**1. DATA SHEET FOR PROGRAMMABLE LOGIC CONTROLLER**

1.0	<b>General</b>		
1.1	Architecture of PLC		Micro PLC with Expandable Modules
1.2	Mounting		DIN rail mountable.
1.3	Power Supply		110 V AC +/- 10%, 50 Hz, If DC power models are offered separate power supply to be included.
2.0	<b>Processor</b>		
2.1	Memory		8 K Program Capacity; 8K Data Memory or better
2.2	Memory Type		Non-Volatile
2.3	Program backup		Internal flash memory or internal EEPROM with automatic backup
2.4	LED indication for RUN, Fault, Bat low etc		Required
2.5	Self Diagnostics		Required for basic diagnostic functions
2.6	Protocols for communication		RS 485 Modbus RTU or Ethernet TCP/IP
2.7	Programmer Interface		USB
3.0	<b>I/O System</b>		
3.1	I/O Capacity (Min)	Digital Inputs	48
		Digital Outputs	32
3.2	Interrogation voltage for I/O		24 V DC
3.3	Output Type		Relay Out puts, Rating 0.5A, 24 V DC
3.4	I/O Control method		Cyclic scan with immediate refreshing
3.5	Input type		Sinking
3.6	LED indication for every channel		Required
3.7	I/O Terminal screws		M3
4.0	<b>Functions Required</b>		Counter, Timer (settable 24Hrs or more), Retentive Timer, Sequential, Arithmetical, Comparison, Clock, logical etc
4.1	Clock		Required
4.2	Retentive timers		Required
5.0	<b>Programmer</b>		
5.1	Programming Software package		Required common for all PLC
5.2	Programmer Type		Laptop PC common for all PLC
5.3	Operating System		Windows
5.4	Programming Language		Ladder Diagram
5.5	Connection port for Programming Device		USB

3					
2					
1	08.12.2020	REVISED	ERM	MPR	KVG
0	20.03.2019	FOR ENQUIRY	ERM	MPR/KVG	JKB
REV	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED

6.0	<b>Accessories</b>	
6.1	Input Interposing Relay with base	Coil: 110V AC, 2CO with contact rating: 110 V AC 2A or higher
6.2	Output Interposing relay with base	Coil: 24 V DC, 2CO with Contact rating: 110 V AC 2A or higher
6.3	Trip amplifiers	Universal input (mA, RTD, TC etc) with configuration facility through front buttons, PV & Set value LED display required, Alarm contact rating 110 V AC, 0.5A.

## 2. DATA SHEET FOR CONTROL PANEL

1.0	<b>General</b>	
1.1	Type	Free Standing
1.2	Make	Reputed
2.0	<b>Dimension</b>	
2.1	Size	2000 (H)x 1000 (W) x 600 (D) Note 1
2.2	Colour	RAL 7035
2.3	Doors	Back Side; Double door
2.4	Base Frame for Panel	Required; Height 100 mm.
2.5	Glanding Plate location	Top back side
2.6	Panel Accessories	Illumination, Exhaust Fan, Dust filter, Utility socket, Lock and key & Gland Plate etc.
3.0	<b>Wiring</b>	
3.1	Cable size	0.75 Sq. mm, Multi stranded or better
3.2	Feruling style	Cross Ferruling with single sleeved ferrules
3.3	Name Plates / Tagging	Required for all components & Panel
3.4	Wire colours	Power : Red & black; Signals – Grey; Earth : Green
3.5	Cable ducts	Slotted PVC
3.6	Cable lugs	Bootlace type
3.7	Terminals	Feed through Single fused type with M3 screws. Material polyamide.
3.8	DIN Rails	Top Hat type; Steel DIN Rail with zinc plated and chromate passivated.
3.9	Panel Earthing	Provision required
4.0	<b>Accessories</b>	
4.1	Push Buttons	Type: Standard, Element : Dual (1 NO+1NC);
4.2	Indication Lamps	Type: Standard, LED, Rating : 24 V DC;
4.3	Selector Switch	Type: Standard, Element : Dual (1 NO+1NC);

### Notes:

- Dimensions indicated are min requirement. Vendor to suitably size the panel depending on requirement.

**3. DATA SHEET FOR ALARM ANNUNCIATOR**

1.0	<b>General</b>	
1.1	Type	Micro processor based programmable Alarm annunciator
1.2	Compliance Standard	ISA S18.1 1979.
1.3	Power supply	110 V AC, 50 Hz
1.4	Mounting	Panel mounting
1.5	Annunciator size	32 Windows (8 Column x 4 Rows)
1.6	Window size	50 x 30mm (min)
1.7	Illumination	Super bright high efficiency low power consuming LED
1.8	Facia Type	Individual windows, Front Replaceable
1.9	Operational Sequences	Auto/Manual/First-up/Ring back (site selectable)
1.10	Window colour	RED and White (16 + 16)
1.11	Flash Rate	Fast - 60 flashes/min. Slow - 30 flashes/min. - selectable
1.12	Grouping	Trip / Non Trip site selectable
2.0	<b>Input</b>	
2.1	Fault Input Type	Potential free (NO/NC field selectable)
2.2	Interrogation Voltage	Vendor to select
2.3	Alarm Sequences	As per ISA – field configurable
2.4	Accessories	Integral Push buttons for Test, Mute, Acknowledge and Reset functions.
2.5	External Push Buttons	Required for Test, Mute, Acknowledge and Reset functions
2.6	Electronic hooter	Required
2.7	Input Terminals	Screw type, size- M3

Notes:

1. Relay out puts for connection to external hooter required.

XXXX