masibus
A Sonepar Company

LC5296-XP-DC

Flame-proof Dual Channel Indicator cum Controller

Masibus model LC5296-XP-DC FLP Dual channel Indicator cum controller is certified for the use in Zone 1 of Gas group I, IIA & IIB Hazardous areas. LC5296-XP-DC is available in compact Single and Dual Compartment type enclosure option. designed with **Touch Sensitive Keys** to give full programmability and ease of operation. The Unit is available in Wall mount option with up to 5 gland openings for multi-core cable wiring.

LC5296-XP-DC Dual channel Indicator cum controller is designed using proven micro-controller technology, this controller has been validated to perform accurate and reliable performance in harsh field environments for various process and monitoring applications.

LC5296-XP-DC is available with easy to read 4 digit, dual 0.56" Red 7 segment LED display for process value., brightness of which is user adjustable.

It accepts RTD/ mA/ Volt input and provides two relay outputs to perform various control and alarm functions.

Process value can also be retransmitted to remote devices as standard current/ voltage signals. Data acquisition can be done on SCADA/ PLC applications through RS485 for further process automation.

Model LC5296-XP-DC is designed to accept universal supply of 85-265V AC, even it is also available for low voltage 18-36V DC operation as an option. A fast sampling 16-bit ADC is used to provide accurate and repeatable performance required for most critical applications

Features

- Available in Single and Dual compartment option
- For gas group I, IIA and IIB as per IS:2148/04 and IP65 as per 13346:04 (Optional: IIC group for Single compartment version)
- Compact and Light weight
- Patented design with **Touch Sensitive Keys** for Operation
- Bright Red seven segment LED Display
- Display brightness control
- Re-transmission output (optional)
- RS485 serial communication (optional)
- Universal Input (RTD, Volts/mA)
- Fail-safe Design protecting the process in case of system malfunctioning
- Relay/ retransmission output mapping with respect to input channel.
- Universal Power Supply

Applications

Hazardous Areas in Industries like

- Chemicals
- Pharma
- Mining
- Oil & gas
- Petrochemical
- Fertilizers
- Pesticides

TECHNICAL SPECIFICATIONS

Input

Input Type	RTD (Pt100), Current, Voltage
Display Range	Refer Table-1
Accuracy	±0.25% of FS ±1 degree for RTD input ±0.1% of FS ±1 count for linear input
ADC Resolution	16 bits
Display Resolution	0.1 / 1.0 °C
Sampling Rate	2 Samples/Sec
Sensor open	All inputs except 0-5V
Sensor Burnout current	0.25uA
RTD excitation current	0.166mA (Approx)
NMRR	> 40dB
CMRR	> 120dB
Temp-co	< 100ppm for Input to Display < 150ppm for Input to retransmission output
Input Impedance	> 1MΩ
Max Voltage	20VDC

Display& Keys

Process Value 1 & 2	0.56", 7 segment, Red LED, 4 digits
Status LEDs	Relay & Communication
Keys	MENU, ESC, Increase, Decrease

Output

Control Output	
Relays	2 Nos.
Type	Single Change over (C, NO, NC)
Rating	5A @ 230VAC / 30VDC
Retransmission Output (Optional)	
Current	0/4-20mA @500Ω Max.
Voltage	0/1-5V, 0-10V @2KΩ Min.
Accuracy	0.25% of FS
Communication Output (Optional in lieu of 2nd Retransmission o/p)	
Interface	RS485
Protocol	Modbus-RTU
Baud Rate	9600, 19200, 38400
Transmitter Supply	24VDC (±10%) @60mA

Power Supply

Standard	85-265VAC/ 100-300VDC
Optional	18-36VDC
Power Consumption	<10VA

Isolation (Withstanding voltage)
Between primary terminals* and secondary terminals**: **At least 1500 V AC for 1 minute**
Between primary terminals* and grounding terminal:: **At least 1500 V AC for 1 minute**
Between grounding terminal and secondary terminals**: **At least 1500 V AC for 1 minute**
Between secondary terminals**: **At least 500 V AC for 1 minute**
* Primary terminals indicate power terminals and relay output terminals.
** Secondary terminals indicate analog I/O signal and Communication O/P.
Insulation resistance:50MΩ or more at 500 VDC between power terminals and grounding terminal.

Physical

Gas Groups	IIA/IIB Single Compartment	IIC Single Compartment	IIA/IIB Dual Compartment
Dimensions (mm)	150(H) x 150(W) x 120(D)	180(H) x 165(W) x 140(D)	340(H) x 186(W) x 110(D)
Weight	2.6 Kgs	3 Kgs	6 Kgs
Enclosure type	Explosion Proof, Aluminum Alloy LM-6, Ex-d		
Area Classification	Zone 1 & 2		
Ingress Protection	IP65		
Mounting type	Wall mount using 2 Nos of M8 size bolts		
Gland/Plug details	2 nos M20 Cable glands and 3 blind plugs		

Environmental

Operating temperature	0-55 °C
Storage temperature	0-80 °C
Humidity	20-95 %RH non-condensing

Table-1: Display Range

Input	Input Type	Range
RTD	PT-100 (3 wire)	-200 to 850 °C, -199.9 to 850.0 °C
Linear	1-5V/0-5V/0-10V DC* 0/4-20mA (Ext 250Ω)	-1999 to 9999

Ordering Code

Model	Input-1		Input-2		Auxiliary Power Supply		Options Output-1		Options Output-2		Gas Group Compartment		No of extra glands	
LC5296-XP-DC	X		X		X		X		X		XX		X	
	9	Pt-100	9	Pt-100	U1	85-265VAC / 100-300VDC	N	None	N	None	1S	IIA, IIB Single Compartment	N	None
	C	4-20mA	C	4-20mA	U2	18-36VDC	1	4-20mA	1	4-20mA	2S	IIA/IIB & IIC Single Compartment	1	1 extra gland
	D	0-20mA	D	0-20mA			2	0-20mA	2	0-20mA			2	2 extra glands
	E	1-5V	E	1-5V			3	1-5V	3	1-5V	1D	IIA/IIB Dual Compartment	3	3 extra glands
	F	0-5V	F	0-5V			4	0-5V	4	0-5V				
	G	0-10V*	X	Default I/P type#			5	0-10V	5	0-10V				
	X	Default I/P type#							6	RS485				

*Possible in Channel-1 only.

Default I/P type configured from factory is 1-5VDC

Standard Accessory
2 nos of M20 Cable glands & 3 nos of Blind plugs

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