

Clean Room Monitoring System



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1992**

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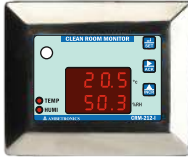

Andheri, Mumbai
India



www.ambetronics.com





Clean Room Monitoring System - Temperature, Humidity & Differential Pressure







	CLEAN ROOM DIFFERENTIAL PRESSURE MONITOR	CLEAN ROOM TEMP. & RH MONITOR (INTEGRATED SENSOR)	CLEAN ROOM TEMP. & RH MONITOR (REAR SENSOR)																		
Model No.:	CRM-111-1	CRM-212-I	CRM-212-R																		
 <p>Product Applications</p>																					
Input	Built in Differential Pressure sensor with Brass Hose Nozzels (Chrome Plated) for +Ve Pressure connection & -Ve Pressure connection	Integrated Humidity and Temperature Sensor	Remote Humidity and Temperature Sensor																		
Range & Resolution	<table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Range</th> <th>Resolution</th> </tr> </thead> <tbody> <tr> <td>DP 1.</td> <td>(-100 to 100) mmWC,</td> <td>0.1</td> </tr> <tr> <td>DP 2.</td> <td>(-10 to 10) cmWC,</td> <td>0.1</td> </tr> <tr> <td>DP 3.</td> <td>(-7.5 to 7.5) mmHG,</td> <td>0.1</td> </tr> <tr> <td>DP 4.</td> <td>(-1000 to 1000) Pascal,</td> <td>1</td> </tr> <tr> <td>DP 5.</td> <td>(-10 to 10) Hectopascal,</td> <td>0.1</td> </tr> </tbody> </table>	Sr. No.	Range	Resolution	DP 1.	(-100 to 100) mmWC,	0.1	DP 2.	(-10 to 10) cmWC,	0.1	DP 3.	(-7.5 to 7.5) mmHG,	0.1	DP 4.	(-1000 to 1000) Pascal,	1	DP 5.	(-10 to 10) Hectopascal,	0.1	Temperature : -20.0°C to 60°C, 0.1 Resolution Humidity : 0% to 100% RH, 0.1 Resolution	
Sr. No.	Range	Resolution																			
DP 1.	(-100 to 100) mmWC,	0.1																			
DP 2.	(-10 to 10) cmWC,	0.1																			
DP 3.	(-7.5 to 7.5) mmHG,	0.1																			
DP 4.	(-1000 to 1000) Pascal,	1																			
DP 5.	(-10 to 10) Hectopascal,	0.1																			
Output	2 Nos. SPDT or 1 No. DPDT relay of rating '2A/24VDC' Potential free contacts (NO-C-NC)																				
• Relay																					
• Current Output	1 No. 4-20mA output with 680E load capacity,																				
• Accuracy of current output	0.125% FS.																				
Accuracy	Differential Pressure : ±1% of FS																				
• Temperature		± 1°C	± 0.5 °C																		
• Humidity		± 3 % RH	± 2 % RH																		
Indication	4 digit Seven Segment 0.4" Red L.E.D. display for Differential Pressure indication	2 line 4 digit Seven Segment 0.4" Red L.E.D. display for Temperature & Humidity indication																			
• Display																					
• Status Indication	2 L.E.D.s 'AL1 and AL2' for for Alarms & 'COM' L.E.D. for communication	2 L.E.D.s for Alarms																			
• Audio Indication	Integrated buzzer for Alarm limits violation	Integrated Buzzer for Alarm violation of any of the 2 parameters, Temperature & Humidity																			
Communication	Isolated RS-485 communication with Modbus RTU Protocol																				
• RS-485 Slave																					
• Programmable Settings	Baud rate 9600 bps, Parity (O/E/N), Data bits (8), Stop bits(1/2)																				
• No. of slave ID	1-250																				
• Minimum Polling interval	200 milliseconds																				
Programmable Parameters	Programmable as per input selection																				
• Set point	2 Nos. AL1, AL2 User Programmable																				
• Programming of parameters	3 Nos. push button front keys (with password protection)																				
• Alarm logic	High or Low, user programmable																				
• Sampling interval																					
• Offset																					
Environmental	0 to 50°C																				
• Operating Ambient Temperature																					
• Relative Humidity	Below 95% RH, Non condensing.																				
Electrical	24VDC ± 10%																				
• Supply voltage	18 to 36VDC, Typically 24VDC																				
• Power consumption	Less than 1.2 watt at 24VDC	Less than 1.2 watt at 24VDC																			
• Battery Up																					
Dimensions	SS-304																				
• Flush mounting plate																					
• Front plate size	90 mm (H) x 110 mm (W)																				
• Back enclosure	MS with powder coated																				
• Overall size	90 mm (H) x 110 mm (W) x 43 mm (D)																				
• Mounting	Modular wall mounting with Stainless Steel Front																				

Clean Room Monitoring System - Temperature, Humidity & Differential Pressure




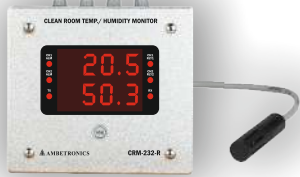


CLEAN ROOM PROCESS MONITOR	CLEAN ROOM TEMP./ HUMIDITY/DP MONITOR (INTEGRATED SENSOR)	CLEAN ROOM TEMP./ HUMIDITY/DP MONITOR (REAR SENSOR)	CLEAN ROOM BATTERY OPERATED TEMP./RH INDICATOR -LCD																		
CRM-485-12	CRM-313-I	CRM-313-R	CRM-142-I																		
																					
<p>Integrated / Remote Humidity and Temperature.</p>	<p>Temp. & RH Sensor : Integrated Differential Pressure Sensor : Integrated Differential Pressure sensor with Brass Hose Nozzles (Chrome Plated) for +Ve & -Ve Pressure connection</p>	<p>Temp. & RH Sensor : Remote, sensor with cable length less than 10 meter available Differential Pressure Sensor : Integrated Differential Pressure sensor with Brass Hose Nozzles (Chrome Plated) for +Ve & -Ve Pressure connection</p>	<p>Integrated Temperature and Humidity</p>																		
<p>Temperature : -40.0 °C to 100 °C, User programmable, 0.1 Resolution Humidity : 0% to 100 % RH, User programmable, 0.1 Resolution</p>	<p>Temperature : -20.0°C to 60.0°C Humidity : 0% to 100% RH, Display resolution : 0.1 for Temperature and RH Note : Other Differential Pressure Range/Unit, Available on request, Contact factory.</p>	<p>Differential Pressure :</p> <table border="1" data-bbox="787 577 1185 756"> <thead> <tr> <th>Sr. No.</th> <th>Range</th> <th>Resolution</th> </tr> </thead> <tbody> <tr> <td>DP 1</td> <td>(-100 to 100) mmWC,</td> <td>0.1</td> </tr> <tr> <td>DP 2</td> <td>(-10 to 10) cmWC,</td> <td>0.1</td> </tr> <tr> <td>DP 3</td> <td>(-7.5 to 7.5) mmHG,</td> <td>0.1</td> </tr> <tr> <td>DP 4</td> <td>(-1000 to 1000) Pascal,</td> <td>1</td> </tr> <tr> <td>DP 5</td> <td>(-10 to 10) Hectopascal,</td> <td>0.1</td> </tr> </tbody> </table>	Sr. No.	Range	Resolution	DP 1	(-100 to 100) mmWC,	0.1	DP 2	(-10 to 10) cmWC,	0.1	DP 3	(-7.5 to 7.5) mmHG,	0.1	DP 4	(-1000 to 1000) Pascal,	1	DP 5	(-10 to 10) Hectopascal,	0.1	<p>Temperature : -20.0°C to 70°C, 0.1 Resolution Humidity : 0% to 100% RH, 0.1 Resolution</p>
Sr. No.	Range	Resolution																			
DP 1	(-100 to 100) mmWC,	0.1																			
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DP 4	(-1000 to 1000) Pascal,	1																			
DP 5	(-10 to 10) Hectopascal,	0.1																			
<p>2 No, 2A/24VDC for Temperature/RH User programmable</p>																					
<p>± 0.5% F ± 2 % RH</p>	<p>Differential Pressure : ± 1% of F.S. ± 1°C ± 3 % RH</p>	<p>Differential Pressure: ± 1 % of F. S. ± 0.5 °C ± 2 % RH</p>	<p>± 1°C ± 3 % RH</p>																		
<p>2 line 4 digit Seven Segment 0.4" Red L.E.D. display for Temperature & Humidity indication</p>			<p>2 Line 4 digit segmental L.C.D display for Temperature / Humidity indication</p>																		
<p>2 L.E.D.s for Alarms</p>	<p>3 L.E.D.s for Alarms, one for each parameter</p>		<p>Two LEDs for Alarm of Temp. & RH & one LED for Low battery indication.</p>																		
<p>Integrated Buzzer for Alarm violation of any of the 2 parameters, Temp. & RH</p>	<p>Integrated Buzzer for Alarm limits violation of any of the 3 parameters</p>		<p>Integrated Buzzer for alarms set points violation.</p>																		
<p>Isolated RS-485 communication with Modbus RTU Protocol</p>																					
<p>Baud rate 9600 bps, Parity (O/E/N), Data bits (8), Stop bits(1/2)</p>																					
<p>1-250</p>																					
<p>500 milliseconds</p>																					
<p>Programmable as per input selection</p>																					
<p>3 Nos. push button front keys (with password protection)</p>			<p>3 Nos. push button front keys (with password protection)</p>																		
<p>High or Low, user programmable</p>			<p>Two Alarm AL1 & AL2 for Temp. & RH each, user programmable</p>																		
			<p>3 to 20 Seconds, User programmable ±10% range of Temp. & Humidity</p>																		
	<p>0 to 50°C</p>																				
	<p>Below 95% RH, Non condensing.</p>																				
	<p>24VDC ± 10%</p>		<p>3.7 VDC Lithium Polymer rechargeable battery</p>																		
	<p>Less than 1.2 watt at 24VDC</p>		<p>Upto 1 Year with 3 seconds sampling interval</p>																		
	<p>SS-304</p>																				
	<p>90 mm (H) x 110 mm (W)</p>																				
	<p>MS with powder coated</p>																				
	<p>90 mm (H) x 110 mm (W) x 43 mm (D)</p>																				
	<p>Modular wall mounting with Stainless Steel Front</p>		<p>③</p>																		





Clean Room Monitoring System - Temperature, Humidity & Differential Pressure

	CLEAN ROOM BATTERY OPERATED TEMP./RH INDICATOR-LCD	CLEAN ROOM HOOTER CUM FLASHER	CLEAN ROOM DIFFERENTIAL PRESSURE MONITOR																		
Model No.:	CRM-142-R	CRM-HTR	CRM-131-1																		
 Product Applications																					
Input	Extended Temperature and Humidity		Built in differential pressure sensor with Brass Hose Nozzels (Chrome Plated) for +Ve Pressure connection & -Ve Pressure connection																		
• Sensor																					
Range & Resolution			<table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Range</th> <th>Resolution</th> </tr> </thead> <tbody> <tr> <td>DP1</td> <td>(-100 to 100) mmWC,</td> <td>0.1</td> </tr> <tr> <td>DP2</td> <td>(-10 to 10) cmWC,</td> <td>0.1</td> </tr> <tr> <td>DP3</td> <td>(-7.5 to 7.5) mmHG,</td> <td>0.1</td> </tr> <tr> <td>DP4</td> <td>(-1000 to 1000) Pascal,</td> <td>1</td> </tr> <tr> <td>DP5</td> <td>(-10 to 10) Hectopascal,</td> <td>0.1</td> </tr> </tbody> </table>	Sr. No.	Range	Resolution	DP1	(-100 to 100) mmWC,	0.1	DP2	(-10 to 10) cmWC,	0.1	DP3	(-7.5 to 7.5) mmHG,	0.1	DP4	(-1000 to 1000) Pascal,	1	DP5	(-10 to 10) Hectopascal,	0.1
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DP4	(-1000 to 1000) Pascal,	1																			
DP5	(-10 to 10) Hectopascal,	0.1																			
• Temperature	-20.0°C to 70°C, 0.1 Resolution																				
• Humidity	0% to 100% RH, 0.1 Resolution																				
• Display Resolution																					
Output			2 Nos. DPDT relay of rating 2A/24VDC'																		
• Relay																					
Accuracy			Differential Pressure : ± 1% F. S.																		
• Temperature	± 0.5°C																				
• Humidity	± 2 % RH																				
Indication	2 Line 4 digit segmental L.C.D display for Temperature / Humidity indication	Flasher : Red Colour Hooter : Noise level 90db	4 digit Seven Segment 1" Red L.E.D. display for Differential Pressure indication																		
• Display																					
• Status Indication	Two LEDs for Alarm of Temp. & RH & one LED for Low battery indication. Alarm indication '▲' on display for AL1 & AL2 common both for Temperature & Humidity		2 L.E.D.s 'AL1 and AL2' for for Alarms and 'COM' L.E.D. for communication																		
• Audio Indication	Integrated Buzzer for alarms set points violation.		Integrated buzzer for Alarm limits violation																		
Communication			Isolated RS-485 communication with Modbus RTU Protocol																		
• RS-485 Slave																					
• Programmable Settings			Baud rate (9600 bps), Parity (O/E/N), Data bits (8), Stop bits(1/2)																		
• No. of slave ID			1-250																		
• Minimum Polling interval			200 milliseconds																		
Programmable Parameters			2 Nos. AL1, AL2 User Programmable																		
• Set point																					
• Programming of parameters	3 Nos. push button front keys (with password protection)		3 Nos. push button front keys (with password protection)																		
• Alarm logic	Two Alarm AL1 & AL2 for Temp. & Humidity each, user programmable		High or Low, user programmable																		
• Sampling interval	3 to 20 Seconds, User programmable																				
• Offset	±10% range of Temp. & Humidity																				
Environmental																					
• Operating Ambient Temperature	0 to 50°C	Operating Temp. : 0 to 50°C Humidity : Below 90% RH, Non condensing.	0 to 50°C																		
• Relative Humidity	Below 95% RH, Non condensing.		Below 95% RH, Non condensing.																		
Electrical																					
• Supply voltage	3.7 VDC Lithium Polymer rechargeable battery	Supply voltage : 24VDC ± 10% Power consumption : Less than 1.5 watt at 24VDC	18 to 36VDC, Typically 24VDC																		
• Power consumption			Less than 1.2 watt at 24VDC																		
• Battery Up	Upto 1 Year with 3 seconds sampling interval																				
Dimensions																					
• Flush mounting plate	SS-304		Aluminium SS-304																		
• Front plate size	90 mm (H) x 110 mm (W)		185 mm(H) x 200 mm(W)																		
• Back enclosure	MS with powder coated		MS with powder coated																		
• Overall size	90 mm (H) x 110 mm (W) x 43 mm (D)		185mm(H) x200 mm (W) x 50 mm(D)																		
• Mounting	Modular wall mounting with Stainless Steel Front		Modular wall mounting with SS or Aluminium front																		

Clean Room Monitoring System - Temperature, Humidity & Differential Pressure







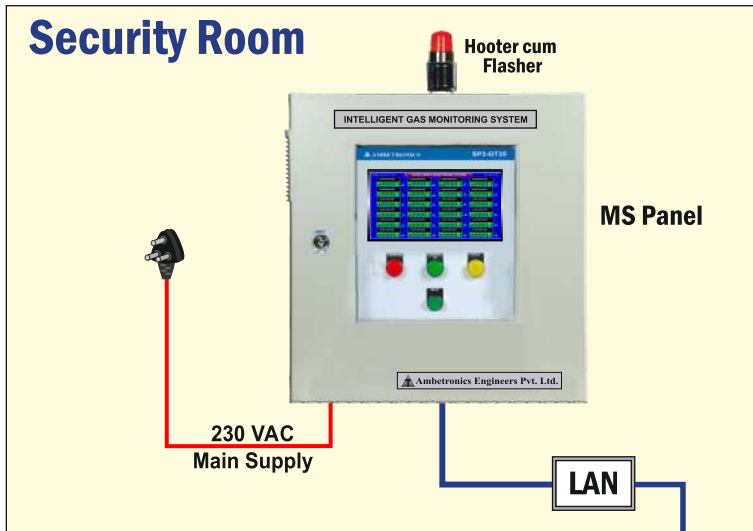
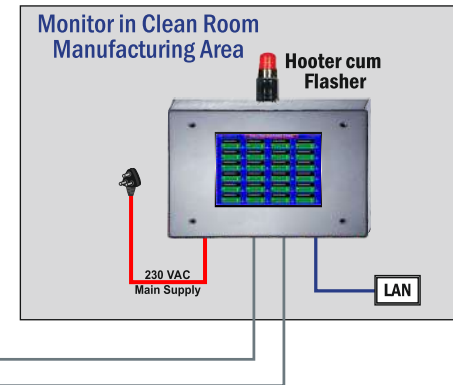
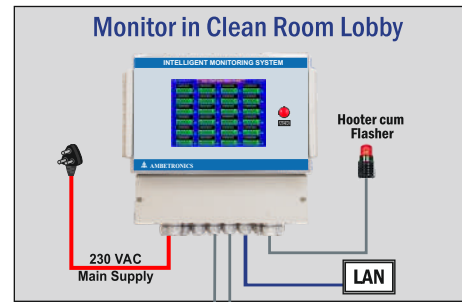
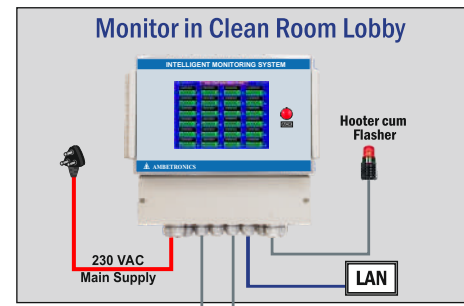
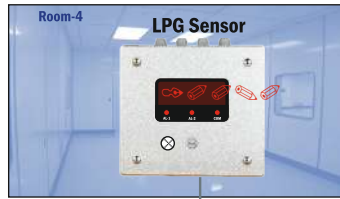
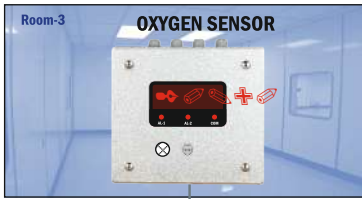
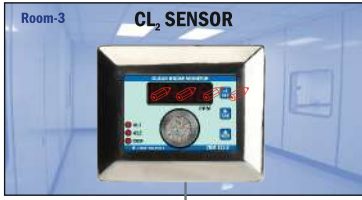
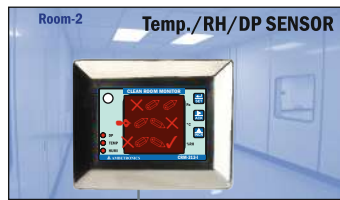
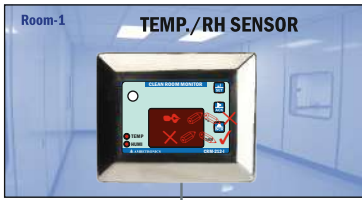
CLEAN ROOM TEMP./ RH MONITOR (INTEGRATED SENSOR)	CLEAN ROOM TEMP./ RHMONITOR (REAR SENSOR)	CLEAN ROOM PROCESS MONITOR-1"-1PV	CLEAN ROOM PROCESS MONITOR-1"-2 PV																		
CRM-232-I	CRM-232-R	CRM-485-31	CRM-485-32																		
																					
Integrated Humidity & Temperature Sensor	Remote Humidity & Temp. Sensor Remote sensor with cable, Length available less than 10 meters.	Integrated Differential Pressure	2 Nos. Slave device with Modbus-RTU protocol Slave Port : 2 Nos. Slave device having 1 P. V. OR 1 No. Slave device having 2 P. V.																		
-20°C to 60°C	-20°C to 60°C	<table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Range</th> <th>Resolution</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>(-100 to 100) mmWC,</td> <td>0.1</td> </tr> <tr> <td>2.</td> <td>(-10 to 10) cmWC,</td> <td>0.1</td> </tr> <tr> <td>3.</td> <td>(-7.5 to 7.5) mmHG,</td> <td>0.1</td> </tr> <tr> <td>4.</td> <td>(-1000 to 1000) Pascal,</td> <td>1</td> </tr> <tr> <td>5.</td> <td>(-10 to 10) Hectopascal,</td> <td>0.1</td> </tr> </tbody> </table>	Sr. No.	Range	Resolution	1.	(-100 to 100) mmWC,	0.1	2.	(-10 to 10) cmWC,	0.1	3.	(-7.5 to 7.5) mmHG,	0.1	4.	(-1000 to 1000) Pascal,	1	5.	(-10 to 10) Hectopascal,	0.1	Range : User settable within 4 digits (-999 to 9999) Resolution : 1, 0.1, 0.01, 0.001
Sr. No.	Range	Resolution																			
1.	(-100 to 100) mmWC,	0.1																			
2.	(-10 to 10) cmWC,	0.1																			
3.	(-7.5 to 7.5) mmHG,	0.1																			
4.	(-1000 to 1000) Pascal,	1																			
5.	(-10 to 10) Hectopascal,	0.1																			
0% to 100% RH	0% to 100% RH	NOTE : Other Differential Pressure Range/ Unit, Available on request, Contact factory.																			
0.1 for Temperature and RH	0.1 for Temperature and Humidity		2 Nos. DPDT Relay or Rating 2A/24VDC, User selectable.																		
2Nos. SPDT relay of rating '2A/120VDC', '2A/24VDC' with potential free contacts (NO-C-NC)	2Nos. SPDT relays of rating 2A/120VDC, 2A/24VDC with potential free contacts (NO-C-NC)																				
±1°C	±0.5°C	Differential Pressure : ± 1 % of FS																			
±3% RH	± 2% RH																				
Upper 4 digit Seven segments 1" RED L.E.D display		4 digit Seven Segment 0.4" Red LED display for Differential Pressure Indication	2x4 digit Seven Segment 1" Red LED display																		
2 L.E.D.s for Alarms Indication for Temperature and Humidity TX, RX, L.E.D.s for communication	2 L.E.D.s for Alarms indication for Temperature and Humidity' TX, RX, L.E.D.s for communication	2 LEDs for Alarms Integrated Buzzer for process violation of Alarm limits; 'COM' LED for communication	2 LEDs AL1 And AL2 for Alarms and COM LED for communication																		
Integrated Buzzer for Alarm limits violation common for Temp. & RH parameters.	Integrated Buzzer for Alarm limits violation. Communication for Temp. & Humidity parameters.		Integrated Buzzer for Alarm Limits violation																		
Isolated RS-485 communication with Modbus RTU Protocol																					
Baud rate (9600 bps), Parity (O/E/N), Data bits (8), Stop bits(1/2)																					
1-250																					
200 milliseconds																					
Programmable as per input selection		2 Nos. AL1, AL2 User Programmable																			
3 Nos. push button front keys (with password protection)																					
High or Low, user programmable																					
0 to 50°C																					
Below 95% RH, Non condensing.																					
24VDC ± 10%			18 VDC tp 36 VDC, Typically 24VDC																		
Less than 1.2 watt at 24VDC																					
			Wattage : Less than 1.2 watt at 24VDC																		
Aluminium SS-304																					
185 mm(H) x 200 mm(W)																					
MS with powder coated																					
185mm(H) x200 mm (W) x 50 mm(D)																					
Modular wall mounting with SS or Aluminium front																					

	CLEAN ROOM OXYGEN MONITOR	CLEAN ROOM TOXIC MONITOR	CLEAN ROOM COMBUSTIBLE MONITOR
Model No.:	CRM-111-2	CRM-111-2	CRM-111-3
 <p>Product Applications</p>			
• Sensor	Integrated / Remote Oxygen Sensor		
Range & Resolution	0 to 25% V/V, 0.01 Resolution		
Output	2 Nos. SPDT relay or 1 No. DPDT relay of rating '2A/24VDC'		
• Relay			
• Current Output	1No. 4-20mA output with 680E load capacity		
• Accuracy of current output	0.125% FS.		
Accuracy	± 2% of Full Scale		
Indication	4 digit Seven Segment 0.4" Red L.E.D display for Oxygen Gas indication	4 digit Seven Segment 0.4" Red L.E.D display for Toxic Gas indication	4 digit Seven Segment 0.4" Red L.E.D display for Combustible Gas indication
• Display			
• Status Indication	2 L.E.D.s 'AL1 and AL2' for Alarms and 'COM' L.E.D. for communication		
• Audio Indication	Integrated Buzzer for Alarm limits violation.		
Communication	Isolated RS-485 communication with MODBUS RTU Protocol		
• RS-485 Slave			
• Programmable Settings	Baud rate (9600 bps), Parity (O/E/N), Data bits (8), Stop bits(1/2)		
• No. of slave ID	1-250		
• Minimum Polling interval	200 milliseconds		
Programmable Parameters	2 Nos. AL1, AL2 User Programmable		
• Set point			
• Programming of parameters	3 Nos. push button front keys (with password protection)		
• Alarm logic	High or Low, user programmable		
Environmental	0 to 50°C		
• Operating Ambient Temperature			
• Relative Humidity	Below 95% RH, Non condensing.		
Electrical	18 to 36VDC, Typically 24VDC		
• Supply voltage			
• Power consumption	Less than 1.2 watt at 24VDC		
Dimensions	SS-304		
• Flush mounting plate			
• Front plate size	90 mm(H) x 110 mm(W)		
• Back enclosure	MS with powder coated		
• Overall size	90mm(H) x 110 mm (W) x 38mm(D)		
• Mounting	Modular wall mounting with Stainless Steel Front		

CLEAN ROOM CH ₄ (NDIR) MONITOR	CLEAN ROOM CO ₂ (NDIR) MONITOR	CLEAN ROOM PROCESS MONITOR	CLEAN ROOM PROCESS MONITOR																										
CRM-111-4	CRM-111-5	CRM-485-11	CRM-485-12																										
NDIR Sensor	NDIR Sensor (Carbon Dioxide Gas)																												
<table border="1"> <thead> <tr> <th>GASES</th> <th>RANGE</th> <th>UNIT</th> <th>RES.</th> </tr> </thead> <tbody> <tr> <td>Methane (CH₄)</td> <td>100</td> <td>% LEL</td> <td>1</td> </tr> <tr> <td>Methane (CH₄)</td> <td>5</td> <td>% V/V</td> <td>0.1</td> </tr> <tr> <td>Methane (CH₄)</td> <td>100</td> <td>% V/V</td> <td>1</td> </tr> </tbody> </table>	GASES	RANGE	UNIT	RES.	Methane (CH ₄)	100	% LEL	1	Methane (CH ₄)	5	% V/V	0.1	Methane (CH ₄)	100	% V/V	1	<table border="1"> <thead> <tr> <th>Sr. No</th> <th>GASES</th> <th>RANGE</th> <th>UNIT</th> <th>RES.</th> </tr> </thead> <tbody> <tr> <td>N10</td> <td>Carbon Dioxide (CO₂)</td> <td>5000</td> <td>PPM</td> <td>1</td> </tr> </tbody> </table>	Sr. No	GASES	RANGE	UNIT	RES.	N10	Carbon Dioxide (CO ₂)	5000	PPM	1		
GASES	RANGE	UNIT	RES.																										
Methane (CH ₄)	100	% LEL	1																										
Methane (CH ₄)	5	% V/V	0.1																										
Methane (CH ₄)	100	% V/V	1																										
Sr. No	GASES	RANGE	UNIT	RES.																									
N10	Carbon Dioxide (CO ₂)	5000	PPM	1																									
2 Nos. SPDT relay or 1 No. DPDT relay of rating '2A/24VDC'																													
1No. 4-20mA output with 680E load capacity																													
0.125% FS.																													
± 10% of Applied Gas or ± 2% FS whichever is maximum.																													
4 digit Seven Segment 0.4" Red L.E.D display																													
2 L.E.D.s 'AL1 and AL2' for Alarms and 'COM' L.E.D. for communication																													
Integrated Buzzer Alarm Limits violation																													
Isolated RS-485 communication with MODBUS RTU Protocol																													
Baud rate (9600 bps), Parity (O/E/N), Data bits (8), Stop bits(1/2)																													
1-250																													
200 milliseconds																													
2 Nos. AL1, AL2 User Programmable																													
3 Nos. push button front keys (with password protection)																													
High or Low, user programmable																													
0 to 50°C																													
Below 95% RH, Non condensing.																													
18 to 36VDC, Typically 24VDC																													
Less than 1.2 watt at 24VDC																													
SS-304		SS-304																											
90 mm(H) x 110 mm(W)		90 mm(H) x 110 mm(W)																											
MS with powder coated		MS with powder coated																											
90mm(H) x 110 mm (W) x 38mm(D)		90mm(H) x 110 mm (W) x 38mm(D)																											
Modular wall mounting with Stainless Steel Front		Modular wall mounting with Stainless Steel Front																											
			⑦																										

	CLEAN ROOM OXYGEN MONITOR	CLEAN ROOM TOXIC MONITOR	CLEAN ROOM COMBUSTIBLE MONITOR
Model No.:	CRM-131-2	CRM-131-2	CRM-131-3
 Product Applications			
Sensor Technology	Integrated / Extended Oxygen Sensor, Electrochemical	Electrochemical	Catalytic / Pellistor
Range & Resolution	0 to 25% V/V, 0.01 Resolution		
Accuracy	± 2% of Full Scale		
Indication Display	4 digit Seven Segment 1" Red L.E.D display for Oxygen Gas indication	4 digit Seven Segment 1" Red L.E.D display for Toxic Gas concentration indication	4 digit Seven Segment 1" Red L.E.D display for Combustible Gas indication
Status indication	2 L.E.D.s 'AL1 and AL2' for Alarms and 'COM' L.E.D. for communication		
Audio Indication	Integrated Buzzer for Alarm limits violation.		Integrated Buzzer for Alarm limits violation with acknowledgment facility
Output (Signal) Relay	2 Nos. DPDT relay of rating 2A/24VDC'		
Communication RS-485 Slave	Isolated RS-485 communication with MODBUS RTU Protocol		
Programmable Settings	Baud rate (9600 bps), Parity (O/E/N), Data bits (8), Stop bits(1/2)		
No. of salve ID	1-250		
Minimum Polling interval	200 milliseconds		
Programmable Parameters Set point	2 Nos. AL1, AL2 User Programmable		
Programming of parameters	3 Nos. push button front keys (with password protection)		
Alarm logic	High or Low, user programmable		
Environmental Operating Ambient Temp.	0 to 50°C		
Humidity	Below 95% RH, Non condensing		
Electrical Supply voltage	18 to 36VDC, Typically 24VDC		
Power consumption	Less than 1.2 watt at 24VDC		
Dimensions Flush mounting plate	Aluminium		
Front plate size	180 mm(H) x 200 mm(W)		
Back enclosure	MS with powder coated		
Overall Dimension	180 mm(H) x 200 mm(W) x 50 mm(D)		
Mounting	Modular wall mounting with SS or \ Aluminium front		
			(8)

CLEAN ROOM O ₂ & TEMP. MONITOR	CLEAN ROOM TOXIC & RH MONITOR	CLEAN ROOM COMBUSTIBLE & DIFFERENTIAL PRESSURE MONITOR	CLEAN ROOM PROCESS MONITOR-1"-2 PV
<p>CRM-232-22-1/R</p> 	<p>CRM-232-23-1/R</p> 	<p>CRM-232-31</p> 	<p>CRM-485-32</p> 
<p>Oxygen Sensor : Electrochemical</p> <p>Temperature Sensor : Remote / Integrated Temperature Sensor connectivity. Remote sensor with cable length less than 10 meter available.</p>	<p>Humidity Sensor : Remote/Integrated Humidity Sensor connectivity Remote sensor with cable length less than 10 meter available</p> <p>Toxic Sensor : Electrochemical</p>	<p>1) DP Sensor : In built Differential Pressure with Brass Hose Nozzels (Chrome Plated) for +Ve & -Ve Pressure connection</p> <p>2) Combustible Sensor : Catalytic Pellistor Sensor</p>	<p>RS-485 Slave Port : 2 Nos. Slave device with Modbus-RTU protocol</p> <p>Slave Port : 2 Nos. Slave device having 1 P. V. OR 1 No. Slave device having 2 P. V.</p>
<p>Oxygen : 0 to 25% V/V, 0.01 Resolution</p> <p>Temp. : -20.0°C to 60°C, 0.1 Resolution</p>			<p>Range : User settable within 4 digits (-999 to 9999)</p> <p>Resolution: 1, 0.1, 0.01, 0.001</p>
<p>Oxygen (O₂) : ±2% of Full Scale</p> <p>Temp. : ± 0.5°C for Remote Sensor ± 1°C for Integrated Sensor</p>	<p>Toxic Gas : ± 2% of Full Scale</p> <p>Humidity : ± 2% RH (Remote Sensor) ± 3% RH (Integrated Sensor)</p>	<p>DP : ± 1% Unit</p> <p>Combustible Gas : ± 3% of Full Scale</p>	
<p>4 digit Seven Segment 1" Red L.E.D. display for Temp./ Humidity indication</p>	<p>4 digit Seven Segment 1" Red L.E.D display Upper Display for Toxic Gas Indication Lower Display for Humidity Indication</p>	<p>4 digit Seven Segment 1" Red L.E.D display Upper display for Combustible Gas Indication Lower display for Differential pressure Indication</p>	<p>2x4 digit Seven Segment 1" Red LED display</p>
<p>2 L.E.D.s for Alarms</p>	<p>2 L.E.D.s 'AL1 and AL2' for Alarms & 'COM' L.E.D. for communication</p>		
<p>Integrated Buzzer for Alarm limits violation common for Both parameter.</p>	<p>Integrated Buzzer for Alarm limits for violation</p>		
<p>2Nos. 2A/24VDC, one for each parameter</p>	<p>2 Nos. SPDT relay for rating 2A/24VDC' with potential free contacts (NO-C-NC)</p>	<p>2 Nos. DPDT relay for rating 2A/24VDC' or 2A/250VAC</p>	<p>2 Nos. DPDT Relay or Rating 2A/24VDC, User selectable</p>
<p>Isolated RS-485 communication with Modbus RTU Protocol</p>			<p>RS-485 Master Port : Isolated RS-485 communication with Master Modbus RTU Protocol</p>
<p>Baud rate (9600 bps), Parity (O/E/N), Data bits (8), Stop bits (1/2)</p>			
<p>1-250</p>			
<p>200 milliseconds</p>			
<p>Programmable as per input selection</p>	<p>2 Nos. AL1, AL2 User Programmable</p>		
<p>3 Nos. push button front keys (with password protection)</p>			
<p>High or Low, user programmable</p>			
<p>0 to 50°C</p>			
<p>Below 95% RH, Non condensing</p>			
<p>24VDC ± 10%</p>			<p>18 VDC tp 36 VDC, Typically 24VDC</p>
<p>Less than 1.2 watt at 24VDC</p>			
<p>Aluminium</p>			
<p>180 mm(H) x 200 mm(W)</p>			
<p>MS with powder coated</p>			
<p>180 mm(H) x 200 mm(W) x 50 mm(D)</p>			
<p>Modular wall mounting with SS or \ Aluminium front</p>			



Manufactured by :

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