

**Electronics & Software - Data Acquisition - SCM****SCM™ SMART CONNECTING MODULE****SCM**

SCM™ (Smart Connecting Module) is an I/O module used for data parameter acquisition for monitoring for industrial engine, marine and genset applications. Accepting various analog and digital sensor input measurements, data is converted and transmitted via the CAN Bus network utilizing CAN open & J1939 protocols.

## // Description

Accepting analog or digital inputs, SCM™ modules process the signals into a double CAN open protocol for redundancy.

Information is transmitted to CLARINUX™ based units in broadcast mode, changing the of status of the binary channels and variation beyond the hysteresis threshold for analog inputs.

The SCM™ consists of a base module (CPU Module, double CAN open network, 24VDC Power Supply (18 to 32V), Serial Link RS232, two acquisition cards and extension modules (capacity 4 to 16 acquisition cards).

# Electronics & Software - Data Acquisition - SCM

## // Specifications

• Operating Temperature Range	.....	0°C/+70°C
• Number Of Inputs	.....	64 to 96
• Analog Inputs	.....	0 to 64
• Binary Inputs	.....	0 to 96
• Mechanical Connection Thread Form	.....	DIN RAIL
• Accuracy	.....	+/- 1 %
• Response Time	.....	< 1 sec
• Material Of Construction	.....	Aluminium & white Zinc-plated sheet
• Vibration Tolerance	.....	4g, 0 to 100 Hz
• Weight	.....	4 kg
• Length	.....	<ul style="list-style-type: none"> <li>• Base block : L=212 mm</li> <li>• 12 modules acquisition block : L=402 mm</li> <li>• 4 modules acquisition block : L=167</li> </ul>
• Width	.....	102 mm
• Other Dimensions	.....	Depth = 90 mm
• Other Features	.....	IP50 rated

## // Applications

DEFENSE - ARMY	OIL & GAS - ONSHORE
DEFENSE - NAVY	POWER - POWER PLANT
INDUSTRY & UTILITIES - PROCESS INDUSTRIES	POWER - ENGINES & GENSETS
INDUSTRY & UTILITIES - HAZARDOUS & MACHINERY	TRANSPORTATION - LAND
OIL & GAS - OFFSHORE	TRANSPORTATION - MARINE

## // Markets

DEFENSE	POWER
INDUSTRY & UTILITIES	TRANSPORTATION
OIL & GAS	

\* Pictures, drawings and technical specifications are non-contractual and may be subject to technical modification

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**Electronics & Software - Monitoring Units - MSAU****MS™ AU 4-20MA MONITORING MODULE****MSAU**

The MS™ module range performs a dual function by measuring and monitoring parameter inputs while handling insulation and power supply functions. By using multiple single channel modules, a custom system can be installed on common DIN rail mountings in close proximity to the installed equipment to be monitored. The plug type terminal blocks allow very rapid wiring and installation / removal.

## // Description

The MS™ modules are used in 4 application cases :

- Conversion of Pt 100, thermocouples and voltage inputs into 4-20mA signals.
- Monitoring of current and voltage (exceeding of adjustable threshold or out of range) and of electro valve or relay lines
- Insulation of signals
- Power supplies

The MSAU™ unit monitors a 4-20mA current and triggers an alarm when the signal exceeds a min or max adjustable threshold. BV classified

# Electronics & Software - Monitoring Units - MSAU

## // Specifications

• Operating Temperature Range	.....	+5°C/+55°C
• Electrical Connection	.....	Two wire section 2.5 mm <sup>2</sup> max for input 4-20mA only
• Number Of Inputs	.....	Single Channel
• Analog Inputs	.....	1 x 4-20mA, ZE
• Number Of Outputs	.....	1
• Output Type	.....	Contact without voltage (Vmax 125 V, Imax 1.25 A, Pmax 30W/50VA) by NE or ND relay
• Measurement Range	.....	+ 0°C / + 800°C
• Mechanical Connection Thread Form	.....	DIN 46277 RAIL
• Accuracy	.....	+/- 1%
• Material Of Construction	.....	Metallic and plastic
• Maximum Pressure	.....	0 to 40 bars
• Weight	.....	0.135 kg
• Length	.....	111 mm
• Width	.....	111 mm
• Other Dimensions	.....	Depth : 20 mm
• Insulation	.....	Input : 500 V
• Other Features	.....	<ul style="list-style-type: none"> <li>• 24 Vdc Power Supply</li> <li>• Insulation 30? at 500 V</li> <li>• Power consumption 25mA max</li> <li>• Threshold time delay : 0.7 sec</li> </ul>

## // Applications

DEFENSE - ARMY	OIL & GAS - ONSHORE
DEFENSE - NAVY	POWER - POWER PLANT
INDUSTRY & UTILITIES - PROCESS INDUSTRIES	POWER - ENGINES & GENSETS
INDUSTRY & UTILITIES - HAZARDOUS & MACHINERY	TRANSPORTATION - LAND
OIL & GAS - OFFSHORE	TRANSPORTATION - MARINE

## // Markets

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OIL & GAS	

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**Electronics & Software - Monitoring Units - MSC2U****MS™ C2U THERMOCOUPLE & VOLTAGE  
CONVERSION MODULE****MSC2U**

The MS™ module range performs a dual function by measuring and monitoring parameter inputs while handling insulation and power supply functions. By using multiple single channel modules, a custom system can be installed on common DIN rail mountings in close proximity to the installed equipment to be monitored. The plug type terminal blocks allow very rapid wiring and installation / removal.

## // Description

The MS™ modules are used in 4 application cases :

- Conversion of Pt 100, thermocouples and voltage inputs into 4-20mA signals.
- Monitoring of current and voltage (exceeding of adjustable threshold or out of range) and of electro valve or relay lines
- Insulation of signals
- Power supplies.

The MSC2U™ module converts a voltage or thermocouple input into 4-20mA signal. BV classified.

# Electronics & Software - Monitoring Units - MSC2U

## // Specifications

• Operating Temperature Range	.....	+5°C/+55°C
• Electrical Connection	.....	Two wire section 2.5 mm <sup>2</sup> max
• Number Of Inputs	.....	Single Channel
• Analog Inputs	.....	1 x 0-7 mV to 0-105 mV ranges with Thermocouples: J,K,T,R,D,B,E
• Number Of Outputs	.....	1
• Output Type	.....	4-20mA not linearized
• Measurement Range	.....	+ 0°C / + 1820°C
• Mechanical Connection Thread Form	.....	DIN 46277 RAIL
• Accuracy	.....	< 1%
• Material Of Construction	.....	Metallic and plastic
• Weight	.....	0.135 kg
• Length	.....	111 mm
• Width	.....	111 mm
• Other Dimensions	.....	Depth : 20 mm
• Other Features	.....	<ul style="list-style-type: none"> <li>• 24 Vdc Power Supply</li> <li>• Load resistance &lt;(V power supply- 10)/0,02 700 ? max at 24 V</li> <li>• Power consumption 25mA max</li> </ul>

## // Applications

DEFENSE - ARMY	OIL & GAS - ONSHORE
DEFENSE - NAVY	POWER - POWER PLANT
INDUSTRY & UTILITIES - PROCESS INDUSTRIES	POWER - ENGINES & GENSETS
INDUSTRY & UTILITIES - HAZARDOUS & MACHINERY	TRANSPORTATION - LAND
OIL & GAS - OFFSHORE	TRANSPORTATION - MARINE

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DEFENSE	POWER
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OIL & GAS	

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**Electronics & Software - Monitoring Units - MSCTU****MS™ CTU 4-20MA TO 0-10V CONVERSION  
MODULE****MSCTU**

The MS™ module range performs a dual function by measuring and monitoring parameter inputs while handling insulation and power supply functions. By using multiple single channel modules, a custom system can be installed on common DIN rail mountings in close proximity to the installed equipment to be monitored. The plug type terminal blocks allow very rapid wiring and installation / removal.

## // Description

The MS™ modules are used across 4 different applications:

- Conversion of Pt 100, thermocouples and voltage inputs into 4-20mA signals.
- Monitoring of current and voltage (exceeding of adjustable threshold or out-of-range) and of electro valve or relay lines
- Signal insulation
- Power supply

The MSCTU™ converts a 4-20mA signal into 0-10 V with galvanic insulation, also supplying a current output without offset zero : 0 - 20 mA or 0 - 1 mA with galvanic insulation on the 4 - 20 mA input.

# Electronics & Software - Monitoring Units - MSCTU

## // Specifications

• Operating Temperature Range	.....	+0°C/+60°C
• Electrical Connection	.....	Two wire section 2.5 mm <sup>2</sup> max
• Number Of Inputs	.....	Single Channel
• Analog Inputs	.....	1 x 4-20mA
• Number Of Outputs	.....	1
• Output Type	.....	0-10 V insulated and 0-20 mA or 0-1 mA insulated
• Mechanical Connection Thread Form	.....	DIN 46277 RAIL
• Accuracy	.....	+/- 1%
• Material Of Construction	.....	Metallic and plastic
• Weight	.....	0.070 kg
• Length	.....	77.5 mm
• Width	.....	77.5 mm
• Other Dimensions	.....	Depth : 20 mm
• Insulation	.....	500 V
• Other Features	.....	<ul style="list-style-type: none"> <li>• 24 Vdc Power Supply</li> <li>• Power consumption 25mA max</li> </ul>

## // Applications

DEFENSE - ARMY	OIL & GAS - ONSHORE
DEFENSE - NAVY	POWER - POWER PLANT
INDUSTRY & UTILITIES - PROCESS INDUSTRIES	POWER - ENGINES & GENSETS
INDUSTRY & UTILITIES - HAZARDOUS & MACHINERY	TRANSPORTATION - LAND
OIL & GAS - OFFSHORE	TRANSPORTATION - MARINE

## // Markets

DEFENSE	POWER
INDUSTRY & UTILITIES	TRANSPORTATION
OIL & GAS	

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**Electronics & Software - Monitoring Units - MSIG****MS™ IG POWER SUPPLY MODULE****MSIG**

The MS™ module range performs a dual function by measuring and monitoring parameter inputs while handling insulation and power supply functions. By using multiple single channel modules, a custom system can be installed on common DIN rail mountings in close proximity to the installed equipment to be monitored. The plug type terminal blocks allow very rapid wiring and installation / removal.

## // Description

The MS™ modules are used across 4 different applications:

- Conversion of Pt 100, thermocouples and voltage inputs into 4-20mA signals.
- Monitoring of current and voltage (exceeding of adjustable threshold or out-of-range) and of electro valve or relay lines
- Signal insulation
- Power supply

The MSIG™ module handles the galvanic insulation of a 4-20mA current loop. BV classified.

# Electronics & Software - Monitoring Units - MSIG

## // Specifications

• Operating Temperature Range	.....	0°C/+60°C
• Electrical Connection	.....	Terminal block for 1.5 mm <sup>2</sup> max length to be stripped : 8 mm
• Number Of Inputs	.....	Single Channel
• Analog Inputs	.....	1 x 4-20mA
• Number Of Outputs	.....	2
• Mechanical Connection Thread Form	.....	DIN 46277 RAIL
• Accuracy	.....	+/- 1%
• Material Of Construction	.....	Metallic and plastic
• Weight	.....	0.135 kg
• Length	.....	111mm
• Width	.....	111mm
• Other Dimensions	.....	Depth : 20 mm
• Insulation	.....	<ul style="list-style-type: none"> <li>• 100M? / 500Vdc</li> <li>• 1500V without DC/DC</li> </ul>
• Other Features	.....	<ul style="list-style-type: none"> <li>• Fuse 500 mA</li> <li>• Input power supply without DC/DC 24dc (19-31 Vdc guaranteed)</li> <li>• Power supply limit values 10 to 32 Vdc max undulation 5%</li> <li>• Temperature drift 0.5% per 10°C</li> <li>• Power consumption 45mA</li> </ul>

## // Applications

DEFENSE - ARMY	OIL & GAS - ONSHORE
DEFENSE - NAVY	POWER - POWER PLANT
INDUSTRY & UTILITIES - PROCESS INDUSTRIES	POWER - ENGINES & GENSETS
INDUSTRY & UTILITIES - HAZARDOUS & MACHINERY	TRANSPORTATION - LAND
OIL & GAS - OFFSHORE	TRANSPORTATION - MARINE

## // Markets

DEFENSE	POWER
INDUSTRY & UTILITIES	TRANSPORTATION
OIL & GAS	

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**Electronics & Software - Monitoring Units - MSS2U****MS™ S2U PT100 & PT1,000 TO 4-20MA  
CONVERSION MODULE****MSS2U**

The MS™ module range performs a dual function by measuring and monitoring parameter inputs while handling insulation and power supply functions. By using multiple single channel modules, a custom system can be installed on common DIN rail mountings in close proximity to the installed equipment to be monitored. The plug type terminal blocks allow very rapid wiring and installation / removal.

## // Description

The MS™ modules are used across 4 different applications:

- Conversion of Pt 100, thermocouples and voltage inputs into 4-20mA signals.
- Monitoring of current and voltage (exceeding of adjustable threshold or out-of-range) and of electro valve or relay lines
- Signal insulation
- Power supply

The MSS2U™ module converts a PT100 or PT1000 probe input into 4-20mA signal. BV classified.

# Electronics & Software - Monitoring Units - MSS2U

## // Specifications

• Operating Temperature Range	.....	+5°C/+55°C
• Electrical Connection	.....	Wire section 2.5 mm <sup>2</sup> max. PT100. 3 or 4 wire connection
• Number Of Inputs	.....	Single Channel
• Analog Inputs	.....	1 x PT100 or PT1000 probe, 2 or 3 wires
• Number Of Outputs	.....	1
• Output Type	.....	4-20mA linearized or not
• Measurement Range	.....	- 50°C / + 150°C
• Mechanical Connection Thread Form	.....	DIN 46277 RAIL
• Accuracy	.....	< 1%
• Material Of Construction	.....	Metallic and plastic
• Weight	.....	0.135 kg
• Length	.....	111 mm
• Width	.....	111 mm
• Other Dimensions	.....	Depth : 20 mm
• Other Features	.....	<ul style="list-style-type: none"> <li>• 24 Vdc Power Supply</li> <li>• Load resistance &lt;(V powersupply-10)/0,02 700? max at 24 V</li> <li>• Power consumption 25mA max</li> </ul>

## // Applications

DEFENSE - ARMY	OIL & GAS - ONSHORE
DEFENSE - NAVY	POWER - POWER PLANT
INDUSTRY & UTILITIES - PROCESS INDUSTRIES	POWER - ENGINES & GENSETS
INDUSTRY & UTILITIES - HAZARDOUS & MACHINERY	TRANSPORTATION - LAND
OIL & GAS - OFFSHORE	TRANSPORTATION - MARINE

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