

April 1999

Data Sheet 9.30

Description

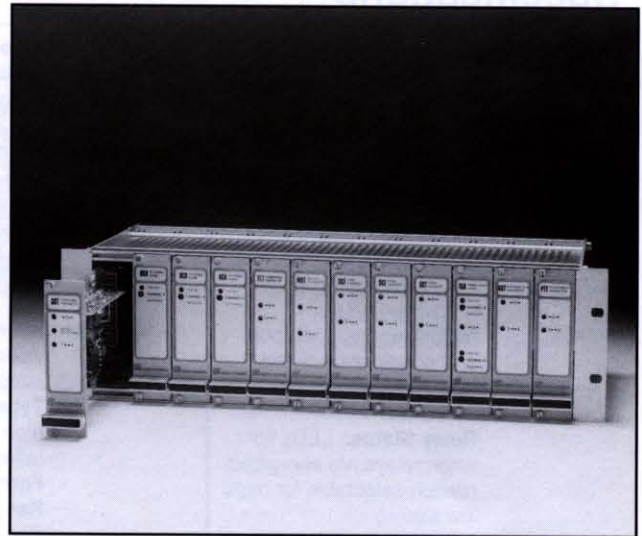
Moore Industries' high-density Euro-Style Plug-In Alarm Cards are ideal for applications where space is limited and design flexibility is required.

Current, Voltage, RTD or T/C Input—Euro-style alarms accept a wide range of current, voltage, RTD and thermocouple inputs. They provide an alarm (contact closure) output ideal for operating a bell, buzzer, light, or other alarm device when a fully-adjustable trip point is reached or exceeded.

Single and Dual Channels—Euro-style alarms are offered in single and dual input channel models. Dual channel models further reduce space requirements by providing two separate input/output channels per card. Each of the channels is isolated from the other, and each channel is input/output isolated.

Modular System Design—Allowing a modular approach to system design, up to 12 plug-in alarm cards can be easily installed in Moore Industries' RMR-EU Euro-Style Plug-In Card Rack. If dual channel cards are specified, up to 24 independent channels can be installed in a single RMR-EU. These alarms can also be used in the same rack with any combination of Moore Industries' comprehensive line of Euro-style plug-in I/O cards.

Unique Analog Output—Euro-Style Plug-In Alarm Cards are offered with a wide range of options including the unique -AO Isolated Analog Output option. The -AO option provides a completely isolated re-transmission of the input value in addition to the alarm output(s). For a complete listing of available options, see Table 3.



Up to 12 compact alarm cards mount quickly and easily in Moore Industries' 19-inch (483mm) industry-standard RMR-EU Euro-Style Plug-In Card Rack.

Features

- **Integral front panel indicator.** Trip point settings and the input signal can be displayed on an easy-to-read front panel LCD, greatly simplifying trip point configuration.
- **Universally compatible mounting dimensions.** All units are designed to international eurocard specifications (3U high, 7HP wide) and use a DIN 41612 connector with an "F" type body.
- **Wide range of inputs.** Comprehensive line includes models that accept almost any current, voltage, RTD, or T/C input.
- **Field selectable parameters.** Switch selectable high/low alarm functions and front panel trip settings can be quickly and easily field-adjusted.
- **Total isolation.** Complete isolation between input, output and power terminals stops ground loops from affecting instrument performance. Dual input units are completely isolated between channels.

Table 1. Available Models

DCA-ED Direct Current Alarm	Accepts all standard current and voltage inputs.
MVA-ED Millivolt Alarm	Accepts input directly from any dc millivolt source.
RBA-ED RTD Alarm	Accepts input from any 2- or 3-wire RTD.
TCA-ED Thermocouple Alarm	Accepts millivolt input from any standard thermocouple.



City of Los Angeles
General (Ordinary) Location – AB housing



CE Conformant – EMC Directive 89/336/EEC
EN 50081-2, 1993 and EN 50082-2, 1995.

DCA, MVA, RBA, TCA

Euro-Style Current, Millivolt, RTD and T/C Alarm Cards

Specifications

Characteristics	Adjustments	Ordering Specifications
<p>Performance (All Units) Repeatability: Trip point repeats within $\pm 0.1\%$ of full span Deadband: 1% of span, standard Response: 150 milliseconds for a step change of 1% of span beyond setpoints Isolation: Input, output, and power are isolated (500Vrms) with no dc connections between them Relay Status: LEDs light when relays are energized (switch-selectable for high/low status) Line Voltage Effect: $\pm 0.005\%/1\%$ line change</p> <p>Ambient Temperature Range: Operating Range is -18°C to $+65^{\circ}\text{C}$ (0°F to 150°F). Effect: Less than $\pm 0.01\%/^{\circ}\text{F}$ over above range. Effect on Cold Junction Compensation (TCA-ED only); $\pm 1^{\circ}\text{C}$ maximum offset per 50°C ambient change.</p>	<p>Zero: RBA-ED and MVA-ED adjustable to $\pm 10\%$ of span; TCA-ED adjustable to $\pm 25\%$ of span (no zero adjustment on DCA-ED) Trip Point: Multiturn front panel adjustments. Trip settings independent and can be set between 0-100%.</p> <p>Indicator Shows trip point and input value as a percentage of span (switch selectable) Type: LCD, 0.25-inch high black numerals over reflective background Format: 3-1/2 digits Range: 0.0 to +199.9 Decimal Point: one Rate: Two readings per second Resolution: 0.1%, ± 1 LSD</p> <p>Weight 270 grams (9.5 ozs.)</p>	<p>Units DCA-ED Direct Current Alarm MVA-ED Millivolt Alarm RBA-ED RTD Alarm TCA-ED Thermocouple Alarm</p> <p>Input Refer to Table 2</p> <p>Output SX 1 DPDT failsafe relay contact rated 5 amps @ 117Vac non-inductive or 28Vdc DX 2 DPDT failsafe relay contacts rated 5 amps @ 117Vac non-inductive or 28Vdc. (switch-selectable for high or low alarms).</p> <p>Power 24DC 24Vdc, $\pm 10\%$, 5 watts nominal (all units)</p> <p>Options Refer to Table 3</p> <p>Housing EUR Euro-style plug-in card for mounting in an RMR-EU rack (see RMR-EU rack data sheet for details)</p>

When ordering, specify: Unit / Input Range / Output / Power Input / Options [Housing]
Model number examples: DCA-ED / 4-20MA / DX / 24DC / -TX [EUR]
 MVA-ED / 0-25MV / DX / 24DC / -DD [EUR]
 RBA-ED / 3W-10 / SX / 24DC / -EZ100 [EUR]
 RBA-ED / 3W-63.87 / DX 24DC / -EZ93.03 [EUR]
 TCA-ED / J-10MV / DX / 24DC / -FU [EUR]
 TCA-ED / J-13.838MV / DX / 24DC / -EZ9.008 [EUR]

Ordering Information

To construct the correct model number, use the bold face data listed under Ordering Specifications in the Specifications table, and in Table 2 and Table 3. For assistance, refer to the model number examples presented at the bottom of the Specifications table.

Installation

Euro-Style Alarm Cards are designed to international eurocard specifications (see back page for details). Twelve modules can be installed in a single 19-inch (483mm) RMR-EU Euro-Style Plug-In Card Rack. The rear connector of the alarm is a DIN 41612 connector with an "F" type body. For terminal designations and dimensions for the RMR-EU rack, see the RMR-EU data sheet.

DCA, MVA, RBA, TCA

Euro-Style Current, Millivolt, RTD and T/C Alarm Cards

Table 2. Types of Inputs, Input Spans and Input Ranges

DCA-ED	MVA-ED	RBA-ED	TCA-ED
<p>Current: 1-5MA @ 200 ohms 4-20MA @ 50 ohms 10-50MA @ 20 ohms 0-20MA @ 50 ohms Voltage (1 megohm input impedance minimum; 200 kilohms with -DA or -ATL option): 0-5V 1-5V .25-1.25V 0-1V</p>	<p>Millivolt (1 megohm input impedance minimum): 0-5MV 0-10MV 0-25MV 0-100MV 0-400MV</p>	<p>RTD Type: 2W 2-wire RTD 3W 3-wire RTD Range: 10 ohms change 25 ohms change 100 ohms change 400 ohms change (specify -EZ value)</p>	<p>Thermocouple Type: Specify any standard ISA thermocouple type (for N-type thermocouple, consult the factory) Span (800 kilohms input impedance typical): 5MV change 10MV change 25MV change 50MV change (specify -EZ value if required)</p>

Table 3. Available Options

Option	Description	Available with these units:
-ADX	Adjustable deadband—1-20%, 50%, or 100% nominal (not available with -MR option). Replace "X" with specific percentage.	All units
-ARX	Alarm response time delay—factory set. Replace "X" with specific delay required from 1-30 seconds.	All units
-AO	Isolated analog output, one per card (4-20mA, 0-20mA @ 1200 ohms or 1-5V, 0-5V)	All units
-ATL	Attenuated input—for signal input voltage exceeding standard specifications up to 200Vdc, maximum (consult factory).	DCA-ED only
-CS	Coding strip	All units
-DA	Deviation alarm—accepts two analog inputs and trips alarm when deviation between the two exceeds a preset percentage of full span; field adjustable from 0-100%; can be single high or low or dual high/low; inputs can be voltage or current or mixed.	DCA-ED only
-DD	Downscale drive—output goes downscale on open input.	All units except RBA-ED
-DI	Dual input—provides two independent alarm isolated functions on a single unit.	All units
-ER	External relay drive—provides voltage drive for customer-furnished remote relay.	All units
-EZ	Elevated zero (required on all RBA-ED and TCA-ED units). Specify input for 0% display reading.	All units except DCA-ED
-FU	400mA power fuse mounted on ED-Alarm.	All units
-HS	Hermetically sealed relay, 1A	All units
-MR	Manual reset—latches relay upon reaching alarm conditions which must be reset by customer furnished external pushbutton or contact closure. (Not available with -IO or -AD options).	All units
-TX	Transmitter excitation—regulated 24Vdc at 25mA; provides two supplies with -DI option	DCA-ED only
-UD	Upscale drive—output goes upscale on open input. (Voltage input only)	DCA-ED & MVA-ED only (Standard on TCA-ED and RBA-ED)
-UDI	Upscale drive in the event of open circuit (current) input.	DCA-EU only

DCA, MVA, RBA, TCA

Euro-Style Current, Millivolt, RTD and T/C Alarm Cards

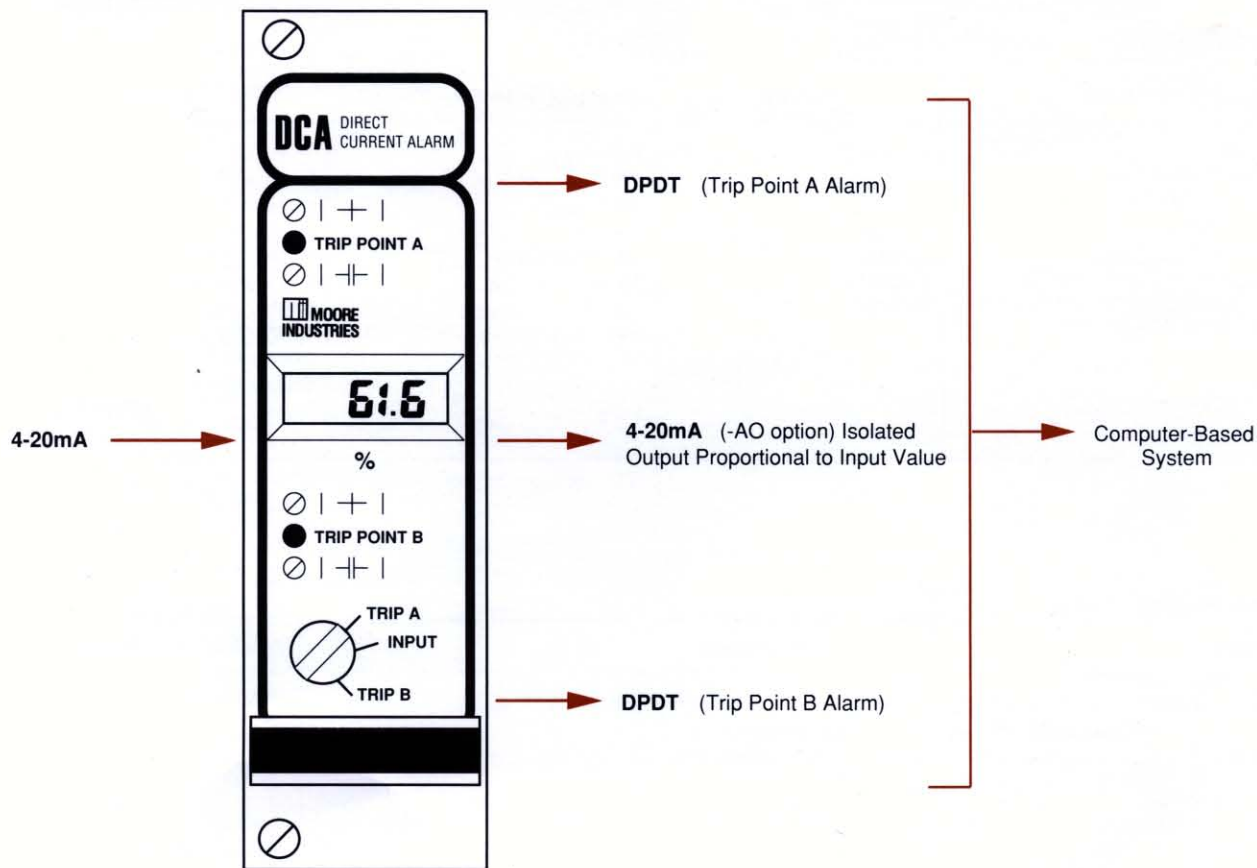


Figure 1. With the -AO option, Euro-Style Alarm provides a completely isolated re-transmission of the input value.

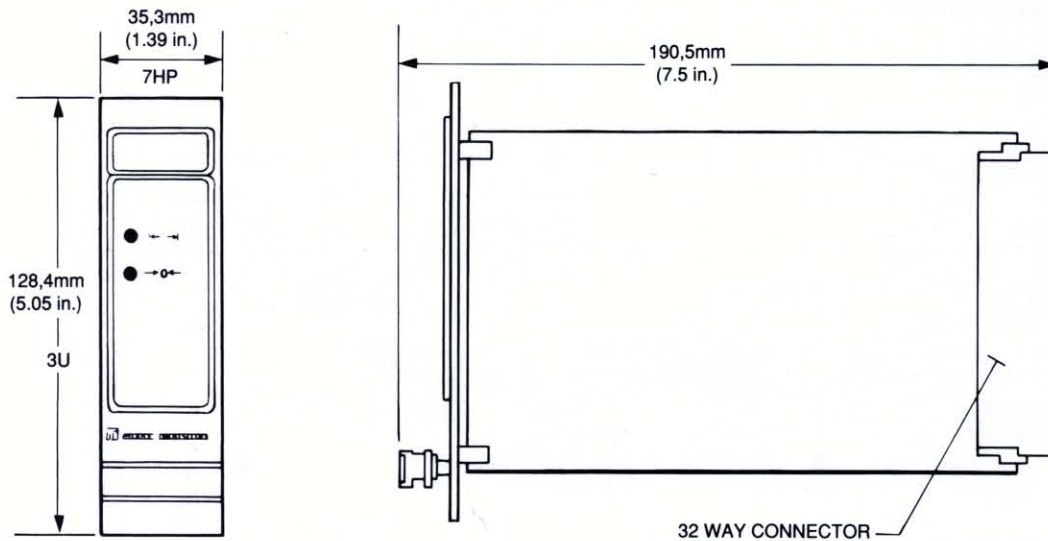


Figure 2. Installation Dimensions.



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