



# Certificate of Compliance

**Certificate:** 70048240

**Master Contract:** 157504

**Project:** 70060114

**Date Issued:** December 15<sup>th</sup>, 2016

**Issued to:** Rotork Process Controls  
5607 West Douglas Ave  
Milwaukee, Wisconsin 53218  
USA

**Attention:** Gary Geer

*The products listed below are eligible to bear the CSA Mark shown*



**Issued by:** Marius Manastireanu  
Marius Manastireanu

## PRODUCTS

**CLASS 3228 02 - VALVES – Actuators - For Hazardous Locations**

**Class I, Div 1, Groups C and D; Class II, Div 1, Groups E, F and G; Class III  
Ex d IIB T4; Ex tb IIIC T85°C**

**Temperature Code T4; Enclosure Type 4 and IP67**

**-20 °C ≤ Tamb ≤ +65°C** (standard cover version)

**-20 °C ≤ Tamb ≤ +60°C** (HMI & HMI/UPS versions, standard temp)

**-40 °C ≤ Tamb ≤ +60°C** (all versions, low temp)

Rotork Compact Modulating Actuators (CMA), Models:

- SIZE 1: CMR-50 – ABC-DE, CML-100 – ABC-DE, CMQ-250 – ABC-DE.
- SIZE 2: CMR-100 – ABC-DE, CMR-200 – ABC-DE, CML-250 – ABC-DE, CMQ-500 – ABC-DE.
- SIZE 3: CMR-89 – ABC-DE, CMR-125 – ABC-DE, CMR-250 – ABC-DE, CML-750 – ABC-DE, CMQ-100050 – ABC-DE.

Where:

A (Model)	= M
B (Voltage)	= 0 or 1
C (Local Control)	= 0, 1 or 2
D (Option 1)	= 0, H, K, D, M, F, P, N, 1, 2, 3 or 7
E (Option 2)	= 0, H, K, D, M, F, P, N, S, 1, 2, 3 or 7



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Rated 24 VDC or 110, 115, 120, 208, 220, 230, 240 VAC, 50/60 Hz, Amp rating as follow:

Model Sizes 1;	24 VDC	110 VAC	115 VAC	120 VAC	208 VAC	220 VAC	230 VAC	240 VAC
CML-100 (Linear)	1.49A	0.46A	0.44A	0.42A	0.24A	0.23A	0.22A	0.21A
CMR-50 (Rotary)	1.25A	0.39A	0.37A	0.36A	0.21A	0.20A	0.19A	0.18A
CMQ-250 (Quarter-turn)	1.77A	0.55A	0.53A	0.50A	0.29A	0.28A	0.26A	0.25A
Model Sizes 2;	24 VDC	110 VAC	115 VAC	120 VAC	208 VAC	220 VAC	230 VAC	240 VAC
CML-250 (Linear)	1.85A	0.58A	0.55A	0.53A	0.31A	0.29A	0.28A	0.26A
CMR-100 (Rotary)	1.56A	0.49A	0.47A	0.45A	0.26A	0.24A	0.23A	0.22A
CMR-200 (Rotary)	1.56A	0.49A	0.47A	0.45A	0.26A	0.24A	0.23A	0.22A
CMQ-500 (Quarter-turn)	2.48A	0.77A	0.74A	0.71A	0.41A	0.39A	0.37A	0.35A

Model Sizes 3;	24 VDC	110 VAC	115 VAC	120 VAC	208 VAC	220 VAC	230 VAC	240 VAC
CML-750 (Linear)	2.48A	0.77A	0.74A	0.71A	0.41A	0.39A	0.37A	0.35A
CMR-89 (Rotary)	2.48A	0.77A	0.74A	0.71A	0.41A	0.39A	0.37A	0.35A
CMR-125 (Rotary)	2.48A	0.77A	0.74A	0.71A	0.41A	0.39A	0.37A	0.35A
CMR-250 (Rotary)	2.48A	0.77A	0.74A	0.71A	0.41A	0.39A	0.37A	0.35A
CMQ-1000 (Quarter-turn)	2.48A	0.77A	0.74A	0.71A	0.41A	0.39A	0.37A	0.35A

Notes:

1. The above models are permanently connected, Equipment Class 1, Pollution Degree 2, Overvoltage Category II.
2. Mode of operation: Continuous
3. Environmental Conditions – Extended: -40 to 65°C, 5000m altitude, indoor/outdoor use, +/- 10% mains voltage fluctuations, 80% max RH up to 31°C decreasing linearly to 50% at 40°C and -40°C to +60°C (UPS/HMI and HMI versions only)



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4. Units have 2 relay outputs rated: 3A @ 150Vac/30Vdc
5. Optional communication boards have outputs rated:
  1. RIRO:  $\leq 150$  Vac, 3A
  2. All other cards:  $\leq 30$  Vac/dc

Electrical Options:

See details in table below under D = Option 1 and E = Option 2

Communication Interfaces

Profibus – Actuator to Profibus DP interface, enables actuator control and monitoring from a Profibus control loop.

Modbus – Actuator to Modbus interface, enables actuator control from a Modbus control loop using Modbus RTU protocol

Foundation Fieldbus – Actuator to Foundation Fieldbus interface, enables actuator control and monitoring from a Foundation Fieldbus control loop.

HART – Actuator to HART interface, enables actuator control and monitoring using HART communication protocol

PAKSCAN FCU – Rotork proprietary two wire actuator control interface.

Super Caps (UPS) - This is a two board set which has 3 primary circuits.

Note: PakScan, HART, Fieldbus, Profibus, Modbus (if fitted) rated SIP/SOPS  $\leq 30$  VAC/DC & RIRO option card (if fitted) rated SIP/SOPS  $\leq 150$  VAC.

Product code example = ABC-DE

A = Model	B = Voltage	C = Local Control	-	D = Option 1	E = Option 2
M = CMA	0 = AC	0 = None (Short Cover)	-	0 = Basic	0=Basic
	1 = DC	1=Local Controls (Long Cover)	-	H = HART	H=HART
		2=Local Controls (Long Cover)	-	K = PakScan	K=Pacscan
			-	D = RIRO	D=RIRO
			-	M = Modbus Single Channel	M=Modbus
			-	F = Foundation FieldBus	F=Fieldbus
			-	P = Profibus Single Channel	P=Profibus
			-	N = DeviceNet	N=DeviceNet
			-	1 = CPT (1)	S=Super Caps
			-	2 = CTT (2)	1=CPT (1)
			-	3 = FOLO/CPT (Internal Power)	2=CTT (2)
			-	7 = FOLO/CPT (External Power)	3=FOLO/CPT (Internal Power)
					7=FOLO/CPT w/External Power



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### **CONDITIONS OF ACCEPTABILITY**

1. The scope of this approval **does not** include any safety related function or reliability of the equipment
2. All conduit entries must be engaged 5 full turns minimum and made wrench tight.
3. Adaptors must not be plugged with stopping plugs.
4. The screws securing the outer window frame contribute to the integrity of the flameproof enclosure and must not be removed.

### **APPLICABLE REQUIREMENTS**

CAN/CSA-C22.2 No. 0-10	-	General Requirements – Canadian Electrical Code, Part II
CAN/CSA-C22.2 No. 60079-0:11	-	Explosive atmospheres – Equipment – General Requirements
CAN/CSA-C22.2 No. 60079-1:11	-	Explosive atmospheres – Equipment protection by flameproof enclosure “d”
CAN/CSA-C22.2 No. 60079-31:12	-	Explosive atmospheres – Equipment dust ignition protection by enclosure “t”
C22.2 No. 25-M1966	-	Enclosures for Use in Class II, Groups E, F, and G Hazardous Locations
C22.2 No. 30-M1986	-	Explosion-Proof Enclosures for Use in Class I Hazardous Locations
CAN/CSA-C22.2 No. 94-M91	-	Special Purpose Enclosures
C22.2 No. 61010-1-12	-	Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements
ANSI/IEC 60529-2004	-	Degrees of Protection Provided by Enclosures (IP Code)

### **MARKINGS**

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.
- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

### **Nameplate information:**

Laser or chemically etched onto a 0.5 mm thick Aluminum/Stainless Steel sheet attached to the equipment housing with rivets and contains the following marking details:

- Company name;
- Company address/contact details;
- Serial number;
- Wiring diagram number;
- Actuator Type/Model;




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- Temperature Range;
- Hazardous Location designation: “Class 1, Div 1, Groups C and D; Class II, Div 1, Groups E, F and G; Ex d IIB T4; Ex tb IIIC T85°C”;
- Special Purpose Enclosure Ratings: “Type 4”;
- Ingress protection rating: “IP67”;
- T-class;
- Power Rating;
- Electrical Input Rating;
- Ambient Temperature (“-20°C ≤ Tamb ≤ +65°C or -40°C ≤ Tamb ≤ +60°C (Low Ambient variant)”);
- Caution symbol  possibility of electric shock.
- The statement: “NOTE: CONSULT INSTALLATION MANUAL TO DETERMINE TEMPERATURE RATING OF CABLE” in English and French;
- The statement: “MORE THAN ONE LIVE CIRCUIT. KEEP COVER TIGHT WHILE CIRCUITS ARE ALIVE. A SEAL SHALL BE INSTALLED WITHIN 50mm OF THE ENCLOSURE. COVER JOINTS MUST BE CLEANED BEFORE REPLACING COVER. WARNING: DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT” in English and French;
- CSA Monogram.
- CSA Certificate Number: CSA 16.70048240



## *Supplement to Certificate of Compliance*

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*The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.*

### **Product Certification History**

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<b>Project</b>	<b>Date</b>	<b>Description</b>
70048240	February 29, 2016	CSA certification of Compact Modulating Actuators, for sizes 1, 2 and 3.
70060114	December 15 <sup>th</sup> , 2016	The introduction of <i>long</i> versions of the actuator cover, which allows a viewing window to be installed, as well as external local controls (HMI – human machine interface) and UPS module (uninterruptable power supply). The new aluminum casting process introduced (HPDC - High Pressure Die Cast) uses A360 aluminum material and different process.