

FM Approvals  
 1151 Boston Providence Turnpike  
 P.O. Box 9102 Norwood, MA 02062 USA  
 T: 781 762 4300 F: 781-762-9375 www.fmaprovals.com

# CERTIFICATE OF COMPLIANCE

## HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

**RMC 621- abcdefghijk. Flow and Energy manager.**

AIS / I / 1 / ABCDEFG — 02 05 00 111; Entity;

I / 0 / [AEx ia] / IIC,IIB,IIA — 02 05 00 111; Entity;

ANI / I, II, III / 2 / ABCDEFG — 02 05 00 111; NIFW;

Entity Parameters and Nonincendive Field Wiring Parameters:

Current Input (active)	V <sub>oc</sub>	I <sub>sc</sub>	P <sub>o</sub>	C <sub>a</sub>	L <sub>a</sub>
Terminals	(V)	(mA)	(mW)	( $\eta$ F)	(mH)
81 and 82	27.6	88.6	612	86	1.6
81 and 83	27.6	88.6	612	86	1.6
181 and 182	27.6	88.6	612	86	1.6
181 and 183	27.6	88.6	612	86	1.6

Current Input (active)	V <sub>oc</sub>	I <sub>sc</sub>	P <sub>o</sub>	C <sub>a</sub>	L <sub>a</sub>
Terminals	(V)	(mA)	(mW)	( $\eta$ F)	(mH)
82 and 10	27.6	92.3	637	86	1.6
83 and 110	27.6	92.3	637	86	1.6
182 and 112	27.6	92.3	637	86	1.6
183 and 113	27.6	92.3	637	86	1.6

Current Input (passive)	V <sub>oc</sub>	I <sub>sc</sub>	P <sub>o</sub>	C <sub>a</sub>	L <sub>a</sub>
Terminals	(V)	(mA)	(mW)	( $\eta$ F)	(mH)
10 and 11	27.6	3.7	26	86	100
110 and 11	27.6	3.7	26	86	100
111 and 112	27.6	3.7	26	86	100
111 and 113	27.6	3.7	26	86	100

Current Input (passive)	V <sub>max</sub>	I <sub>max</sub>	P <sub>i</sub>	C <sub>i</sub>	L <sub>i</sub>
Terminals	(V)	(mA)	(mW)	(F)	(H)
10 and 11	30	100	750	0	0
110 and 11	30	100	750	0	0
111 and 112	30	100	750	0	0
111 and 113	30	100	750	0	0

Temperature Input	V <sub>oc</sub>	I <sub>sc</sub>	P <sub>o</sub>	C <sub>a</sub>	L <sub>a</sub>
Terminals	(V)	(mA)	(mW)	(μF)	(mH)
1,2,5, and 6	9.6	16.2	39	3.6	100
3,4,7, and 8	9.6	16.2	39	3.6	100
114,115,116 and 117	9.6	16.2	39	3.6	100
118,119,120 and 121	9.6	16.2	39	3.6	100

a = Version: C.

b = Display/Operating keys: 1 or 2.

c = Power Supply: 1 or 2.

d = Slot B: D, or E

e = Slot C: D, or E.

f = Slot D: D, or E.

g = Unit software: not safety relevant

h = Language: not safety relevant

i = Communication: 1 or 2.

j = Calibration: not safety relevant

k = Additional option: 1, 2, S or K.

Specific conditions of use:

- 1) The RMC 621 Flow and Energy Manager shall be installed in a tool secured enclosure in compliance with the mounting, spacing and segregation requirements of the ultimate application.

**RMM 621- abcdefghijk. Application manager.**

AIS / I / 1 / ABCDEFG — 02 05 00 111; Entity;

I / 0 / [AEx ia] / IIC,IIB,IIA — 02 05 00 111; Entity;

ANI / I, II, III / 2 / ABCDEFG — 02 05 00 111; NIFW;

Entity Parameters and Nonincendive Field Wiring Parameters:

Current Input (active)	V <sub>oc</sub>	I <sub>sc</sub>	P <sub>o</sub>	C <sub>a</sub>	L <sub>a</sub>
Terminals	(V)	(mA)	(mW)	(ηF)	(mH)
81 and 82	27.6	88.6	612	86	1.6
81 and 83	27.6	88.6	612	86	1.6
181 and 182	27.6	88.6	612	86	1.6
181 and 183	27.6	88.6	612	86	1.6

Current Input (active)	V <sub>oc</sub>	I <sub>sc</sub>	P <sub>o</sub>	C <sub>a</sub>	L <sub>a</sub>
Terminals	(V)	(mA)	(mW)	(ηF)	(mH)
82 and 10	27.6	92.3	637	86	1.6
83 and 110	27.6	92.3	637	86	1.6
182 and 112	27.6	92.3	637	86	1.6
183 and 113	27.6	92.3	637	86	1.6

Current Input (passive)	V <sub>oc</sub>	I <sub>sc</sub>	P <sub>o</sub>	C <sub>a</sub>	L <sub>a</sub>
Terminals	(V)	(mA)	(mW)	(ηF)	(mH)
10 and 11	27.6	3.7	26	86	100
110 and 11	27.6	3.7	26	86	100
111 and 112	27.6	3.7	26	86	100
111 and 113	27.6	3.7	26	86	100

Current Input (passive)	V <sub>max</sub>	I <sub>max</sub>	P <sub>i</sub>	C <sub>i</sub>	L <sub>i</sub>
Terminals	(V)	(mA)	(mW)	(F)	(H)
10 and 11	30	100	750	0	0
110 and 11	30	100	750	0	0
111 and 112	30	100	750	0	0
111 and 113	30	100	750	0	0

Temperature Input	V <sub>oc</sub>	I <sub>sc</sub>	P <sub>o</sub>	C <sub>a</sub>	L <sub>a</sub>
Terminals	(V)	(mA)	(mW)	(μF)	(mH)
1,2,5, and 6	9.6	16.2	39	3.6	100
3,4,7, and 8	9.6	16.2	39	3.6	100
114,115,116 and 117	9.6	16.2	39	3.6	100
118,119,120 and 121	9.6	16.2	39	3.6	100

Digital Input	V <sub>max</sub>	I <sub>max</sub>	P <sub>i</sub>	C <sub>i</sub>	L <sub>i</sub>
Terminals	(V)	(mA)	(mW)	(F)	(H)
81, 83, 85, 82	30	100	750	0	0
91, 93, 95, 92	30	100	750	0	0

U-I-TC Input	V <sub>oc</sub>	I <sub>sc</sub>	P <sub>o</sub>	C <sub>a</sub>	L <sub>a</sub>
Terminals	(V)	(mA)	(mW)	(μF)	(mH)
122, 123, 125, 127	9.6	3	8	3.6	100
222, 223, 225, 227	9.6	3	8	3.6	100

a = Version: C.

b = Display/Operating keys: 1 or 2.

c = Power Supply: 1 or 2.

d = Slot B: G, H, I, or J.

e = Slot C: G, H, I, or J.

f = Slot D: G, H, I, or J.

g = Unit software: not safety relevant

h = Language: not safety relevant

i = Communication: A, B, 1, or 2.

j = Calibration: not safety relevant

k = Additional option: 1, 2, S or K.

*Specific conditions of use:*

- 1) *The Application manager RMM 621 shall be installed in a tool secured enclosure in compliance with the mounting, spacing and segregation requirements of the ultimate application.*

**FML 621- abcdefghijk. Density Module.**

AIS / I / 1 / ABCDEFG — 02 05 00 111; Entity;

I / 0 / [AEx ia] / IIC,IIB,IIA — 02 05 00 111; Entity;

ANI / I, II, III / 2 / ABCDEFG — 02 05 00 111; NIFW;

Entity Parameters and Nonincendive Field Wiring Parameters:

Current Input (active)	V <sub>oc</sub>	I <sub>sc</sub>	P <sub>o</sub>	C <sub>a</sub>	L <sub>a</sub>
Terminals	(V)	(mA)	(mW)	(nF)	(mH)
81 and 82	27.6	88.6	612	86	1.6
81 and 83	27.6	88.6	612	86	1.6
181 and 182	27.6	88.6	612	86	1.6
181 and 183	27.6	88.6	612	86	1.6

Current Input (active)	V <sub>oc</sub>	I <sub>sc</sub>	P <sub>o</sub>	C <sub>a</sub>	L <sub>a</sub>
Terminals	(V)	(mA)	(mW)	(nF)	(mH)
82 and 10	27.6	92.3	637	86	1.6
83 and 110	27.6	92.3	637	86	1.6
182 and 112	27.6	92.3	637	86	1.6
183 and 113	27.6	92.3	637	86	1.6

Current Input (passive)	V <sub>oc</sub>	I <sub>sc</sub>	P <sub>o</sub>	C <sub>a</sub>	L <sub>a</sub>
Terminals	(V)	(mA)	(mW)	(nF)	(mH)
10 and 11	27.6	3.7	26	86	100

Current Input (passive)	V <sub>oc</sub>	I <sub>sc</sub>	P <sub>o</sub>	C <sub>a</sub>	L <sub>a</sub>
Terminals	(V)	(mA)	(mW)	( $\eta$ F)	(mH)
110 and 11	27.6	3.7	26	86	100
111 and 112	27.6	3.7	26	86	100
111 and 113	27.6	3.7	26	86	100

Current Input (passive)	V <sub>max</sub>	I <sub>max</sub>	P <sub>i</sub>	C <sub>i</sub>	L <sub>i</sub>
Terminals	(V)	(mA)	(mW)	(F)	(H)
10 and 11	30	100	750	0	0
110 and 11	30	100	750	0	0
111 and 112	30	100	750	0	0
111 and 113	30	100	750	0	0

Temperature Input	V <sub>oc</sub>	I <sub>sc</sub>	P <sub>o</sub>	C <sub>a</sub>	L <sub>a</sub>
Terminals	(V)	(mA)	(mW)	( $\mu$ F)	(mH)
1,2,5, and 6	9.6	16.2	39	3.6	100
3,4,7, and 8	9.6	16.2	39	3.6	100
114,115,116 and 117	9.6	16.2	39	3.6	100
118,119,120 and 121	9.6	16.2	39	3.6	100

Digital Input	V <sub>max</sub>	I <sub>max</sub>	P <sub>i</sub>	C <sub>i</sub>	L <sub>i</sub>
Terminals	(V)	(mA)	(mW)	(F)	(H)
81, 83, 85, 82	30	100	750	0	0
91, 93, 95, 92	30	100	750	0	0

a = Version: C.

b = Display/Operating keys: 1 or 2.

c = Power Supply: 1 or 2.

d = Slot B: G, H, or I.

e = Slot C: G, H, or I.

f = Slot D: G, H, or I.

g = Unit software: not safety relevant

h = Language: not safety relevant

i = Communication: 1, or 2.

j = Calibration: not safety relevant

k = Additional option: 1, 2, S or K.

Special conditions of use:

- 1) The Density Module FML 621 shall be installed in a tool secured enclosure in compliance with the mounting, spacing and segregation requirements of the ultimate application.

## Equipment Ratings:

Associated Apparatus with Intrinsically Safe connections to Class I, Zone 0, Group IIC, IIB, IIA and connections to a Class I, II, & III, Division 1, Groups A, B, C, D, E, F, & G indoor Hazardous (Classified) Locations, in accordance with control drawings 02 05 00 111.

AND

Associated Nonincendive Field Wiring Apparatus with nonincendive field wiring connections to Class I, II, III, Division 2, Group A, B, C, D, E, F and G indoor Hazardous (Classified) Locations, in accordance with control drawings 02 05 00 111

## FM Approved for:

Endress+Hauser Wetzler GmbH + Co. KG  
Nesselwang, Germany



This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	1998
Class 3610	2010
Class 3611	2004
Class 3810	2005

Original Project ID: 3021306

Approval Granted: March 25, 2005

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
050629	August 12, 2005		
3027597	January 5, 2007		
3042808	October 4, 2011		

FM Approvals LLC

J.E. Marquedant  
Group Manager, Electrical

4 October 2011  
Date