



FM Approvals  
 1151 Boston Providence Turnpike  
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Member of the FM Global Group

# CERTIFICATE OF COMPLIANCE

## HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

***IND560x-a Weight Indicator.***

IS/I,II,III/1/ABCDEFGH/T4 Ta = -10°C to +40°C – 72191600; Entity; IP65; Type 4

I/1/AEx ib IIC/T4 Ta = -10°C to +40°C – 72191600; Entity; IP65; Type 4

a = Harsh (desk version), PANEL (panel mount version)

Entity Parameters:

***Power Supply (terminals J4, J5)***

<b><i>Terminal</i></b>	<b><i>U<sub>i</sub> (V)</i></b>	<b><i>I<sub>i</sub> (mA)</i></b>	<b><i>P<sub>i</sub> (W)</i></b>	<b><i>C<sub>i</sub> (μF)</i></b>	<b><i>L<sub>i</sub> (mH)</i></b>
P1 (J5.1)	10.5	74	0.78	0.24	-
P3 (J5.3)	5.9	240	1.41	0.48	-
P5 (J5.5)	12.6	92	1.16	0.36	-
P6 (J4.1)	8.7	133	1.16	0.13	-
P8 (J4.3)	12.6	42	0.53	-	-
P9 (J4.4)	7.15	107	0.77	0.24	-

***Battery Power Supply\* (terminal J1 on Power Adapter Board)***

<b><i>Terminal</i></b>	<b><i>U<sub>i</sub> (V)</i></b>	<b><i>I<sub>i</sub> (A)</i></b>	<b><i>P<sub>i</sub> (W)</i></b>	<b><i>C<sub>i</sub> (μF)</i></b>	<b><i>L<sub>i</sub> (mH)</i></b>
BI2 + (J1.2)	12.0	3.03	6.83	0.49	-

\*- IND560x-HARSH with internal mounted Power Adaptor Board

***Analog Scale Interface (terminal J6)***

<b><i>Terminal</i></b>	<b><i>U<sub>o</sub> (V)</i></b>	<b><i>I<sub>o</sub> (mA)</i></b>	<b><i>P<sub>o</sub> (W)</i></b>	<b><i>C<sub>o</sub> (μF)</i></b>	<b><i>L<sub>o</sub> (mH)</i></b>
SA1-7 (J6)	5.88	133	0.8	0.2	0.3

**Digital Scale Interface (terminals J1, J9)**

<b>Terminal</b>	<b><math>U_o</math> (V)</b>	<b><math>I_o</math> (mA)</b>	<b><math>P_o</math> (W)</b>	<b><math>C_o</math> (<math>\mu</math>F)</b>	<b><math>L_o</math> (mH)</b>
SD1 (J1.1)	12.6	42	0.53	0.4*	1.0*
SD2 (J1.2)	8.7	133	1.16	0.87*	0.3*
SD5 (J9.2)	5.36	30	0.04	0.1	0.1
SD6 (J9.3)	5.36	30	0.04	0.1	0.1
SD7 (J9.4)	12.6	92	1.16	0.14*	0.3*

\*-When powered by PSUx or APS768x power supply as shown on Control Drawing 72191600.

**Serial Interface (terminal COM1) (RS232)**

<b>Terminal</b>	<b><math>U_o</math> (V)</b>	<b><math>I_o</math> (mA)</b>	<b><math>P_o</math> (W)</b>	<b><math>C_o</math> (<math>\mu</math>F)</b>	<b><math>L_o</math> (mH)</b>
COM 1.1 & 1.2 (J7.1, J7.2)	$\pm$ 5.36	$\pm$ 18.1	0.0242	0.1	0.1

<b>Terminal</b>	<b><math>U_i</math> (V)</b>	<b><math>I_i</math> (mA)</b>	<b><math>P_i</math> (W)</b>	<b><math>C_i</math> (<math>\mu</math>F)</b>	<b><math>L_i</math> (mH)</b>
COM 1.1 & 1.2 (J7.1, J7.2)	$\pm$ 10	-	-	-	-

**Serial CL Data Interface (terminals COM4, COM5)**

<b>Terminal</b>	<b><math>U_o</math> (V)</b>	<b><math>I_o</math> (mA)</b>	<b><math>P_o</math> (W)</b>	<b><math>C_o</math> (<math>\mu</math>F)</b>	<b><math>L_o</math> (mH)</b>
COM 4/5	5.36	107	0.144	0.6	0.4

**Serial FO Data Interface (terminals (FO-COM4, FO-COM5)**

No electrical output, signal is optical only, maximum optical power 5mW for each output channel.

**Discrete I/O Board Options (terminal J2, J3)**

*Option 1: Active/Active I/O Board*

<b>Terminal (Output active)</b>	<b><math>U_o</math> (V)</b>	<b><math>I_o</math> (mA)</b>	<b><math>P_o</math> (W)</b>	<b><math>C_o</math> (<math>\mu</math>F)</b>	<b><math>L_o</math> (mH)</b>
A-OUT1+ (J3.1) – A-OUT6+ (J3.11)	12.6	92	0.627	0.1	0.4

<b>Terminal (Input active)</b>	<b><math>U_o</math> (V)</b>	<b><math>I_o</math> (mA)</b>	<b><math>P_o</math> (W)</b>	<b><math>C_o</math> (<math>\mu</math>F)</b>	<b><math>L_o</math> (mH)</b>
A-IN1+ (J2.1) - A- IN4+ (J2.7)	5.88	2	0.00294	0.1	0.1

*Option 2: Active/Passive I/O Board*

<b>Terminal (Output passive)</b>	$U_i$ (V)	$I_i$ (mA)	$P_i$ (W)	$C_i$ ( $\mu$ F)	$L_i$ (mH)
P-OUT1+ (J3.12) – P-OUT6+ (J3.2)	15	40	0.150	0.01	0.01

<b>Terminal (Input active)</b>	$U_o$ (V)	$I_o$ (mA)	$P_o$ (W)	$C_o$ ( $\mu$ F)	$L_o$ (mH)
A-IN1+ (J2.8) - A- IN4+ (J2.2)	5.88	2	0.00294	0.1	0.1

*Option 3: Passive/Passive I/O Board*

<b>Terminal (Output passive)</b>	$U_i$ (V)	$I_i$ (mA)	$P_i$ (W)	$C_i$ ( $\mu$ F)	$L_i$ (mH)
P-OUT1+ (J3.12) – P-OUT6+ (J3.2)	15	40	0.150	0.01	0.01

<b>Terminal (Input passive)</b>	$U_i$ (V)	$I_i$ (mA)	$P_i$ (W)	$C_i$ ( $\mu$ F)	$L_i$ (mH)
P-IN1+ (J2.8) - P- IN4+ (J2.2)	30	50	0.375	0.01	0.01

**Equipment Ratings:**

Intrinsically Safe (Entity) for use in Class I, II and III, Division 1, Groups A, B, C, D, E, F and G; Temperature Class T4; IP65 and Class I, Zone 1, AEx ib IIC T4; IP65; Type 4 indoor hazardous (Classified) locations in accordance with the Entity requirements and Control Drawing 72191600.

**FM Approved for:**

Mettler Toledo (ChangZhou) Measurement Technologies Ltd.  
Changzhou, Jiangsu Province, Peoples Republic of China



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 3810	2005
ANSI/NEMA 250	1991
ANSI/IEC 60529	2004

Original Project ID: 3035339

Approval Granted: 4/24/09

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
100430	June 8, 2010		
3041501	February 1, 2011		
110203	<i>February 27, 2011</i>		

FM Approvals LLC

*J. E. Marquardt*  
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 J. E. Marquardt  
 Group Manager, Electrical

*22 February 2011*  
 \_\_\_\_\_  
 Date



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# CERTIFICATE OF COMPLIANCE

## HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS

This certificate is issued for the following equipment:

***IND560x-a Weight Indicator.***

IS/I,II,III/1/ABCDEFGH/T4 Ta = -10°C to +40°C – 72191600; Entity; IP65  
a = Harsh (desk version), PANEL (panel mount version)

Entity Parameters:

***Power Supply (terminals J4, J5)***

<b><i>Terminal</i></b>	<b><i>U<sub>i</sub> (V)</i></b>	<b><i>I<sub>i</sub> (mA)</i></b>	<b><i>P<sub>i</sub> (W)</i></b>	<b><i>C<sub>i</sub> (μF)</i></b>	<b><i>L<sub>i</sub> (mH)</i></b>
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P8 (J4.3)	12.6	42	0.53	-	-
P9 (J4.4)	7.15	107	0.77	0.24	-

***Battery Power Supply\* (terminal J1 on Power Adapter Board)***

<b><i>Terminal</i></b>	<b><i>U<sub>i</sub> (V)</i></b>	<b><i>I<sub>i</sub> (A)</i></b>	<b><i>P<sub>i</sub> (W)</i></b>	<b><i>C<sub>i</sub> (μF)</i></b>	<b><i>L<sub>i</sub> (mH)</i></b>
BI2 + (J1.2)	12.0	3.03	6.83	0.49	-

\*- IND560x-HARSH with internal mounted Power Adaptor Board

**Analog Scale Interface (terminal J6)**

<i>Terminal</i>	<i>U<sub>o</sub> (V)</i>	<i>I<sub>o</sub> (mA)</i>	<i>P<sub>o</sub> (W)</i>	<i>C<sub>o</sub> (μF)</i>	<i>L<sub>o</sub> (mH)</i>
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\*-When powered by PSUx or APS768x power supply as shown on Control Drawing 72191600.

**Serial Interface (terminal COM1) (RS232)**

<i>Terminal</i>	<i>U<sub>o</sub> (V)</i>	<i>I<sub>o</sub> (mA)</i>	<i>P<sub>o</sub> (W)</i>	<i>C<sub>o</sub> (μF)</i>	<i>L<sub>o</sub> (mH)</i>
COM 1.1 & 1.2 (J7.1, J7.2)	±5.36	±18.1	0.0242	0.1	0.1

<i>Terminal</i>	<i>U<sub>i</sub> (V)</i>	<i>I<sub>i</sub> (mA)</i>	<i>P<sub>i</sub> (W)</i>	<i>C<sub>i</sub> (μF)</i>	<i>L<sub>i</sub> (mH)</i>
COM 1.1 & 1.2 (J7.1, J7.2)	±10	-	-	-	-

**Serial CL Data Interface (terminals COM4, COM5)**

<i>Terminal</i>	<i>U<sub>o</sub> (V)</i>	<i>I<sub>o</sub> (mA)</i>	<i>P<sub>o</sub> (W)</i>	<i>C<sub>o</sub> (μF)</i>	<i>L<sub>o</sub> (mH)</i>
COM 4/5	5.36	107	0.144	0.6	0.4

**Serial FO Data Interface (terminals FO-COM4, FO-COM5)**

No electrical output, signal is optical only, maximum optical power 5mW for each output channel.

**Discrete I/O Board Options (terminal J2, J3)**

*Option 1: Active/Active I/O Board*

<i>Terminal (Output active)</i>	<i>U<sub>o</sub> (V)</i>	<i>I<sub>o</sub> (mA)</i>	<i>P<sub>o</sub> (W)</i>	<i>C<sub>o</sub> (μF)</i>	<i>L<sub>o</sub> (mH)</i>
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A-IN1+ (J2.1) - A- IN4+ (J2.7)	5.88	2	0.00294	0.1	0.1



*Option 2: Active/Passive I/O Board*

<b>Terminal (Output passive)</b>	$U_i$ (V)	$I_i$ (mA)	$P_i$ (W)	$C_i$ ( $\mu$ F)	$L_i$ (mH)
P-OUT1+ (J3.12) – P-OUT6+ (J3.2)	15	40	0.150	0.01	0.01

<b>Terminal (Input active)</b>	$U_o$ (V)	$I_o$ (mA)	$P_o$ (W)	$C_o$ ( $\mu$ F)	$L_o$ (mH)
A-IN1+ (J2.8) - A- IN4+ (J2.2)	5.88	2	0.00294	0.1	0.1

*Option 3: Passive/Passive I/O Board*

<b>Terminal (Output passive)</b>	$U_i$ (V)	$I_i$ (mA)	$P_i$ (W)	$C_i$ ( $\mu$ F)	$L_i$ (mH)
P-OUT1+ (J3.12) – P-OUT6+ (J3.2)	15	40	0.150	0.01	0.01

<b>Terminal (Input passive)</b>	$U_i$ (V)	$I_i$ (mA)	$P_i$ (W)	$C_i$ ( $\mu$ F)	$L_i$ (mH)
P-IN1+ (J2.8) - P- IN4+ (J2.2)	30	50	0.375	0.01	0.01

**Equipment Ratings:**

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 Temperature Class T4; IP65 indoor hazardous locations in accordance with Entity requirements and the  
 Control Drawing 72191600.

**FM Approved for:**

Mettler Toledo (ChangZhou) Measurement Technologies Ltd.  
 Changzhou, Jiangsu Province, Peoples Republic of China



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

CSA C22.2 No. 157	1992
CSA C22.2 No. 142	1990
CSA C22.2 No. 1010.1	2004
CSA C22.2 No. 60529	2005

Original Project ID: 3041501

Approval Granted: 4/24/09

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3041501C	February 1, 2011		
110203	<i>February 22, 2011</i>		

FM Approvals LLC

*J. E. Marquardt*  
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 J. E. Marquardt  
 Group Manager, Electrical

*22 February 2011*  
 \_\_\_\_\_  
 Date