**General Notes:**

1. Installation should be in accordance with:
   - ANSI/ISA RP12.06.01, "Installation of Intrinsically Safe Systems for Hazardous (classified) Locations" for guidance on the installation of Intrinsically Safe apparatus and systems,
   - The National Electrical Code ANSI/NFPA 70.
2. Sheets 2 and 3 represent different entities Factory Mutual approved with barriers.
3. Barrier manufacturers' installation drawings must be followed when installing these equipments.
4. In case of aluminium load cell, the enclosure contains aluminium and is considered a potential risk of ignition by impact or friction. Care must be taken during installation to prevent impact or friction.

**The Following Load Cells Models Are Factory Mutual Research Approved:**

- **Models:** CA40X, CB50X, R10X, F60X, SD25X, SK30X, SB30X, AK, AB, AP, AH AG and AQ

**Part Number Rules:**

- **Y Ratio Code (Metrological):**
- **Capacity (kg or t):**
- **Accuracy Classification:**
- **Humidity Grade:**

Load cells can be connected in parallel at junction box. To determine voltage drop of excitation voltage through barriers, see barrier manufacturer for details of barrier characteristics.

SCAIME manufactures summing boxes (ALCJB1, ALCJB3 and ALCJB6).

SCAIME can also provide interconnection cable with specified parameters required for safety calculations:

- Cable inductance L = 0.30µH/ft and capacitance C = 46pF/ft.

**Electrical equipment connected must not use or generate more than 250V RMS or D.C.**

**Notes:**

- Unless otherwise specified

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**Diagram Notes:**

1. Maximum excitation voltage (floating or not): 28VDC
2. SCAIME manufactures summing boxes (ALCJB1, ALCJB3 and ALCJB6).
3. SCAIME can also provide interconnection cable with specified parameters required for safety calculations:
   - Cable inductance L = 0.30µH/ft and capacitance C = 46pF/ft.

**Utility Note:**

- **Excitation**
- **Sense**
- **Signal**

**Maximum Excitation Voltage:**

- Floating: 28VDC
- Non-floating: 28VDC

**Ignition Curves of FM3611 Appendix B must be respected.**

This applies to voltage vs current curves and also cables' inductance and capacitance.

The SCAIME cable parameters are L = 0.30µH/ft and C = 46pF/ft. (when cables parameters are unknown, the following values may be used L = 0.20µH/ft and C = 60pF/ft).

**Manufacturers (Barrriers):**

- R. STAHLS, INC.
  - 150 L NEW BOSTON STREET
  - WOBURG, MA 01801
  - U.S.A.
  - Ph. 800-782-4357
  - Fax 617-933-7896
  - www.rstahl.com

- MTL O. S. T., INC.
  - 2450 South Shore Blvd, Suite 210
  - LEAGUE CITY, TX 77573
  - U.S.A.
  - Ph. 281-334-9111
  - Fax 281-334-4324
  - www.mtmost.com

**Test Agency:**

- FACTORY MUTUAL RESEARCH
  - 1151 BOSTON PROVIDENCE TURNPIKE
  - NORWOOD, MA 02062
  - U.S.A.
  - Ph. 781-762-4300
  - Fax 781-762-9375
  - www.fmglobal.com

**Notes:**

- Current crossing each load cell must not exceed 66mA in order to keep temperature classification and to ensure safety.
- Is C I, II, III / DIV 1 / GP ABCDEFG/T6 Ta=60°C NIFW
- Is C I, II, III / DIV 2 / GP ABCDEFG/T6 Ta=60°C NIFW

**Wiring Diagram - Factory Mutual approved installations for hazardous locations (sheet 1/3)**

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**Check by:**

- B. DESRUMAUX

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**Diagram Key:**

- Load cells can be connected in parallel at junction box.
- To determine voltage drop of excitation voltage through barriers, see barrier manufacturer for details of barrier characteristics.
- SCAIME manufactures summing boxes (ALCJB1, ALCJB3 and ALCJB6).
- SCAIME can also provide interconnection cable with specified parameters required for safety calculations:
  - Cable inductance L = 0.30µH/ft and capacitance C = 46pF/ft.

**Notes:**

- Unless otherwise specified

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**Diagram Description:**

- **Excitation**
- **Sense**
- **Signal**

**Maximum Excitation Voltage:**

- Floating: 28VDC
- Non-floating: 28VDC

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**Ignition Curves of FM3611 Appendix B must be respected.**

This applies to voltage vs current curves and also cables' inductance and capacitance.

The SCAIME cable parameters are L = 0.30µH/ft and C = 46pF/ft. (when cables parameters are unknown, the following values may be used L = 0.20µH/ft and C = 60pF/ft).
USE EXCLUSIVELY SCAIME LOAD CELLS MODELS FACTORY MUTUAL APPROVED. LOAD CELLS CAN BE CONNECTED IN PARALLEL AT JUNCTION BOX. TO DETERMINE VOLTAGE DROP OF EXCITATION VOLTAGE THROUGH BARRIERS, SEE BARRIER MANUFACTURER FOR DETAILS OF BARRIER CHARACTERISTICS.

SCAIME MANUFACTURES SUMMING BOXES (ALCJB1, ALCJB3 AND ALCJB6).

ELECTRICAL EQUIPMENT CONNECTED TO BARRIERS MUST NOT USE OR GENERATE MORE THAN 250V RMS OR D.C.

LOAD IS CALCULATED BY DIVISION OF ONE LOAD CELL INPUT RESISTANCE BY THE NUMBER OF LOAD CELLS.

NOTES:
1. BARRIER MANUFACTURERS INSTALLATION DRAWINGS MUST BE FOLLOWED WHEN INSTALLING THIS EQUIPMENT
2. INSTALLATION SHOULD BE IN ACCORDANCE WITH ANSI/ISA RP12.06.01 AND THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70.
R. STAHL BARRIERS
SCAIME SET B20

MAXIMUM LENGTH OF ADDITIONAL WIRING IN THE SYSTEM MUST NOT EXCEED 229 FEET
(USING SCAIME CABELE SPECIFIED TO L= 0.30µH / ft AND C= 46pF/ ft)

MTL BARRIERS
SCAIME SET B8

MAXIMUM LENGTH OF ADDITIONAL WIRING IN THE SYSTEM MUST NOT EXCEED 820 FEET
(USING SCAIME CABELE SPECIFIED TO L= 0.30µH / ft AND C= 46pF/ ft)

MAXIMUM EXCITATION VOLTAGE: THE LOWEST OF EITHER 21VDC OR [15 + (2760 / LOAD)]VDC IF FLOATING OR + / - HALF THESE VALUES IF NOT FLOATING

1. BARRIER MANUFACTURERS INSTALLATION DRAWINGS MUST BE FOLLOWED WHEN INSTALLING THIS EQUIPMENT
2. INSTALLATION SHOULD BE IN ACCORDANCE WITH ANSI/ISA RP12.06.01 AND THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70.
3. LOAD IS CALCULATED BY DIVISION OF ONE LOAD CELL INPUT RESISTANCE BY THE NUMBER OF LOAD CELLS.
4. USE EXCLUSIVELY SCAIME LOAD CELLS MODELS FACTORY MUTUAL APPROVED. LOAD CELLS CAN BE CONNECTED IN PARALLEL AT JUNCTION BOX. TO DETERMINE VOLTAGE DROP OF EXCITATION VOLTAGE THROUGH BARRIERS, SEE BARRIER MANUFACTURER FOR DETAILS OF BARRIER CHARACTERISTICS.
5. SCAIME MANUFACTURES SUMMING BOXES (ALCJB1, ALCJB3 AND ALCJB6).
6. ELECTRICAL EQUIPMENT CONNECTED TO BARRIERS MUST NOT USE OR GENERATE MORE THAN 250V RMS OR D.C.
7. NOTES:
   1. BARRIER MANUFACTURERS INSTALLATION DRAWINGS MUST BE FOLLOWED WHEN INSTALLING THIS EQUIPMENT
   2. INSTALLATION SHOULD BE IN ACCORDANCE WITH ANSI/ISA RP12.06.01 AND THE NATIONAL ELECTRICAL CODE ANSI/NFPA 70.