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1 Valid for Load Cells

BK2-a, CC1-d, CPB-e, DSB2-h, DSB5-h, HM1-g, PBx-e, PC1-b, PC22-b, PC2-g, PC30-b, PC3-b, PC4-b, PC42-b, PC46-g, PC60-g, PC6-b, PC7-b, PCBB-g, PCBC-g, PCB-g, Q50-h, RC1-d, RC2-d, RC3-d, SB14-a, SB15-a, SB4-a, SB5-a, SB6-b, SB7-b, SB8-b, SB9-e, SLB-f, ZLB-b, and SB2-d Load Cells.
UB1-a, UB5-a, UB6-b, UB7-b, ULB-a, and ULG-i Force Transducers.
XT50 Extensometer.

a = Capacity: between 100kg and 10T; 200lb and 20klb; 1kN and 100kN.
b = Capacity: between 5kg and 500kg; 10lb and 1klb; 50N and 5kN.
d = Capacity: between 5 klb and 500 klb; 2 ton and 300 ton; 20 kN and 2.5 MN.
e = Capacity: any between 0.5 kg and 2500 kg; 1 lb and 5 klb; 5 N and 25 kN.
f = Capacity: between 200lb and 20klb; 100kg and 10000kg; 1kN and 100kN.
g = Capacity: between 20kg and 1000kg; 50lb and 2000lb; 200N and 10kN.
h = Capacity between 100kg and 100T; 200lb and 200klb; 1kN and 1MN.
i = Capacity between 100lbs and 10klbs.
x = Customer: F, M, N or W.

2 Preamble

This manual covers only the "**Ex**" relevant aspects.

3 Equipment Function

Flintec load cells are designed to be used in various kinds of industrial scales and meet the most stringent accuracy requirements. Certifications have been obtained from Weights & Measures Authorities worldwide. These load cells are available with different maximum capacities and include accuracy classifications according to OIML R 60 and / or NTEP.
They offer stainless steel or aluminum construction sealed by welding or improved potting.
This makes them suitable for use in tough industrial environments.

The load cells can be used in all hazardous areas. The basic structure is always the same.

All standard equipment is provided with a 4-wire shielded conductor cable; equipment with the coding extension –6w is provided with a 6-wire shielded conductor cable.

3.1 Equipment Ratings

Intrinsically Safe (Entity) for use in Class I, II, III, Division 1, Groups A, B, C, D, E, F and G; Temperature Class T4 Ta = -40°C to 40°C; when installed per Control Drawing 3-21457 Hazardous (Classified) Locations.

Entity Parameters:
V_{Max} (U_i) = 29.9V, I_{Max} (I_i) = 0.450A, C_i = 0, L_i = 0.

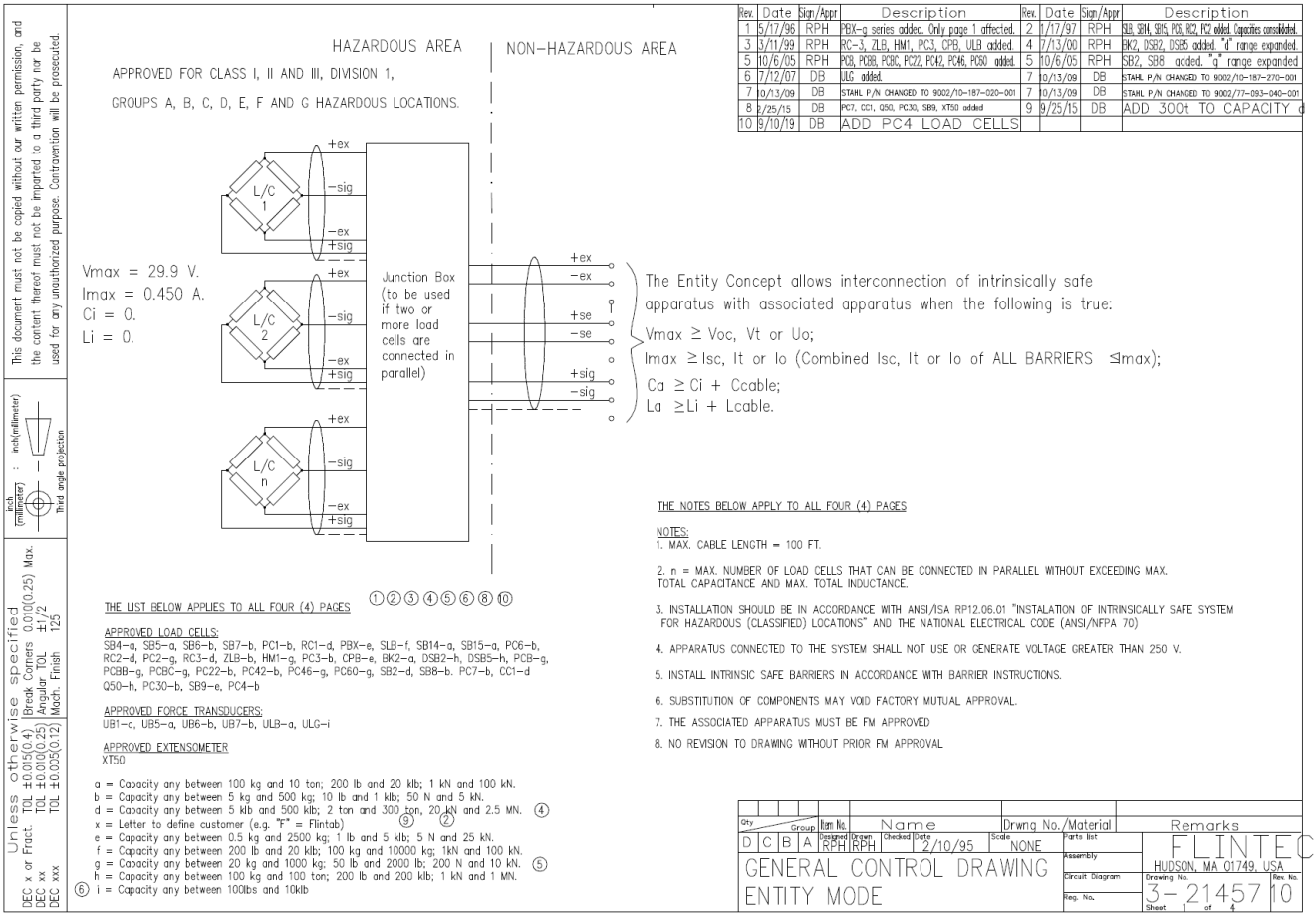
3.2 Connection of the Standard Version

Supply circuit:	green (+) and black (-)
Signal circuit:	white (+) and red (-)
Shield	yellow and / or metallic

The intrinsically safe circuit including the load cells must be built up with approved safety barriers or switch amplifiers, matching the connected weighing indicator.

3.2.1 Control drawing

Warning: The specialist who installs the equipment must take responsibility for proper operation in combination with various measuring equipment .



3.3 Connection of the 6-wire Version

Supply circuit:	green (+) and black (-)
Signal circuit:	white (+) and red (-)
Sense circuit:	blue (+) and brown (-)
Shield:	yellow and / or metallic

The intrinsically safe circuit including the load cells must be built up with approved safety barriers or switch amplifiers, matching the connected weighing indicator.

3.4 Advice for Interconnections

a) Follow and respect the formation-regulations of the application-country.
Eg: IEC 60079-14, or local equivalent
b) It is ONLY permitted to use approved safety barriers or switch amplifiers for explosive-areas. In Europe, it is a requirement to have an EC-Type Examination Certificate from a nominated certifying body for the Zones 0 / 1 / 20 / 21.
c) The rated power, P_o, of all excitation devices must be equal to or less than the power, P_i, of one load cell.
d) The excitation voltage U_o must be equal to or less than the voltage U_i of one load cell.
e) The current, I_o, of all excitation devices must be equal to or less than the current, I_i, of one load cell.
f) The capacitance C_o and the inductance I_o must be equal to or less then C_i and I_i.
g) To ensure a potential equalization with -6w versions, a ground connection between the load cell housing and the safety barrier's ground connector is required. In these installations, the shield of the connection cable is connected to ground potential at both ends.

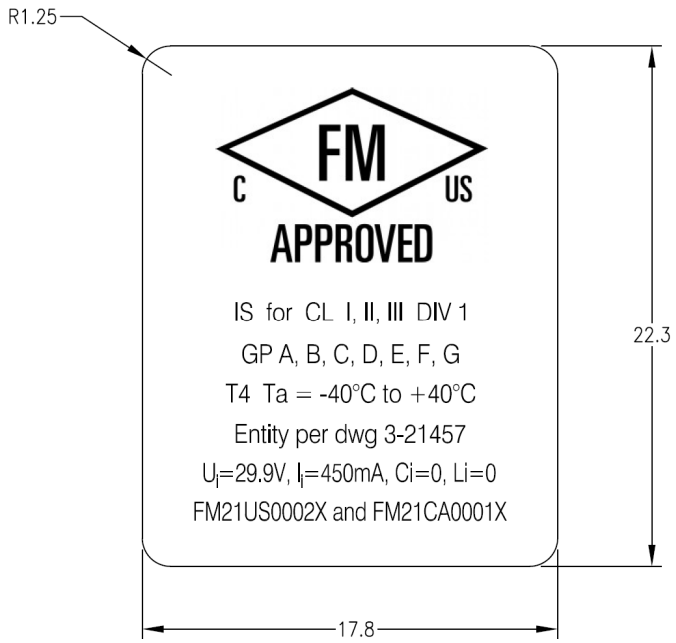
3.5 Specific Conditions of Use

1. The load cells type PC22, PC42, PC46, PC60 and ZLB have an aluminum enclosure. Avoid an ignition hazard due to impact or friction.
2. The load cells type BK2, PC1, PC22, PC42, PC46, PC60, SB5, SLB, UB5, ULB and ZLB have a plastic surface larger than 4cm^2. Avoid risk from electrostatic discharge.
3. The connection cables must be installed in a way that a risk from electrostatic discharge is avoided.

4 Designation

All Flintec load cells follow the same electrical design and meet the requirements for category1 equipment.

4.1 Standard Label



5 Commissioning and Installation

a) This equipment (load cells) can be used either in zone 0, 1 or 2, or zone 20, 21 or 22 in explosion groups IIA, IIB, IIC, IIIA, IIIB, or IIIC.
b) The allowed ambient temperature range is –40°C to +40°C.
c) This equipment complies to protection class > IP67 / IEC 60529
d) This equipment must be electrostatically grounded.
e) The load cell must not be used if it is defective or shows any visible damage.

6 Usage

WARNING : Misuse will cause the loss of warranty and manufacturer's responsibility.

The load cells are only allowed for professional applications in accordance with the load cell data sheet and Flintec application parts.

a) If the load cells are not powered from an intrinsically-safe circuit the connection cables must either be lead out of the hazardous area to terminate them or terminated in suitable junction boxes.
b) If used in hazardous dust environment, the dust layer on the load cell body must not exceed 5 mm in thickness.

7 Maintenance

Maintenance interventions on the load cells have to be carried out by Flintec personnel only.

8 Repair

This equipment is certified for use in hazardous locations, therefore no modifications are allowed. Repairs **must** only be performed by Flintec personnel.

9 Waste Disposal

The waste disposal of package and shipped parts **must** be done in accordance with the regulations of the country in which the equipment is installed.