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1 Valid for Load Cells

BK2, CN3, PC1, PC2, PC3, PC4, PC6, PC7, PC12, PC22, PC30, PC42, PC46, PC60, PCB, RC1, RC3, Q50, SB4, SB5, SB6, SB8, SB9, SB14, SLB, UB1, UB6, ULB, UXT, VT1.

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. 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 aluminium construction sealed by welding or improved potting.

This makes them suitable for use in tough industrial environments.

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.

(See Chapter 3.6 Coding of Load Cells).

3.1 Equipment Ratings

For CN3, PC1, PC2, PC3, PC4, PC6, PC7, PC12, PC22, PC30, PC42, PC46, PC60, PCB, RC1, RC3, Q50, SB4, SB5, SB6, SB8, SB9, SB14, SLB, UB1, UB6, ULB, UXT.

Ui	Ii	Pi	EPL	Temperature classes at ambient temperature Ta	Integral Cable	
					Max. mutual capacitance	Max. mutual inductance
30V	300mA	1.6W	Ga (Gas)	T4 (-40°C to +60°C)	150 pF/m	1 µH/m
			Da (Dust)*	T100°C (-40°C to +60°C)		

For BK2

Ui	Ii	Pi	EPL	Temperature classes at ambient temperature Ta	Integral Cable	
					Max. mutual capacitance	Max. mutual inductance
30V	300mA	1.3W	Ga (Gas)	T4 (-40°C to +60°C)	150 pF/m	1 µH/m
			Da (Dust)*	T100°C (-40°C to +60°C)		

For VT1

Ui	Ii	Pi	EPL	Temperature classes at ambient temperature Ta	Integral Cable	
					Max. mutual capacitance	Max. mutual inductance
30V	300mA	1.5W	Ga (Gas)	T4 (-40°C to +60°C)	150 pF/m	1 µH/m
			Da (Dust)*	T100°C (-40°C to +60°C)		

*Assessment has been done under 200mm depth of dust, therefore the equipment may be considered suitable for environments with an uncontrolled dust layer

3.2 Connection of the 4-wire 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 constructed with approved equipment (e.g., safety barriers or switch amplifiers) matching the connected weighing indicator.

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 constructed with approved equipment (e.g. safety barriers or switch amplifiers) matching the connected weighing indicator.

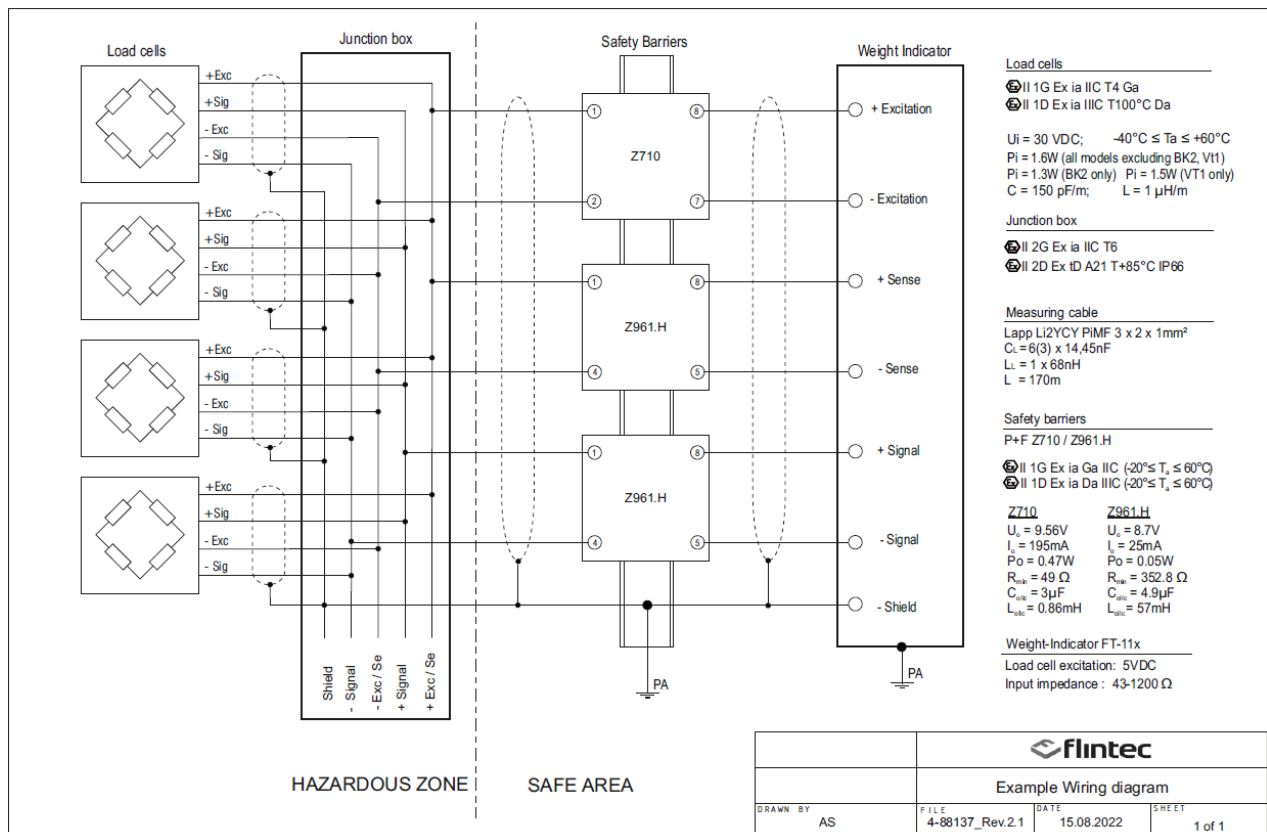
3.4 Installation guidelines

- The installation must be carried out by competent personnel with suitable training and qualification e.g. CompEx, IECEx CoPC.
- Follow and respect the guidelines and regulations of the application country.
e.g.: IEC 60079-14, IEC 60079-25 or local equivalents.
- It is ONLY permitted to use approved equipment (e.g., safety barriers or switch amplifiers) for explosive areas. In Europe, it is a requirement for such equipment to be covered by an appropriate Type Examination Certificate.
- For load cells which contain an "s" in the marking code, the shield of the cable is connected to the load cell body (see section 3.6).

3.5 Examples of suitable circuits with approved safety barriers:

Warning: The displayed example is verified for intrinsic safety protection.
The qualified personnel installing the equipment must take responsibility for proper operation in combination with various measuring equipment.

Example: With safety barriers for single-ended supply



3.6 Coding of the Load Cells

The load cells are marked according to the following scheme:

AAA-BBB-CCC-DDE-ZZ, e.g. **CN3-100kg-C3-6ws-12**

AAA	=	Load cell type
BBB	=	Load cell maximum capacity
CCC	=	Accuracy class
DD	=	without marking = 4-wire; 6w = 6-wire
E	=	without marking = shield of cable not connected to load cell body, s = shield of cable connected to load cell body
ZZ	=	Cable length in plain text (in meter)

4 Designation

All Flintec load cells follow the same electrical design and meet the requirements for ATEX/UKEX/IECEx category 1 equipment. The ATEX-label is attached to the connection cable close to the load cell body.

4.1 Standard Label



Ex-Parameters

Ex-Marking

4.2 Label on the Cable



5 Commissioning and Installation

- This equipment (load cells) has been designed for Zones 0, 1 or 2 in equipment groups IIA, IIB, IIC, and Zones 20, 21 or 22 in equipment groups IIIA, IIIB, or IIIC.
- The allowed ambient temperature range is -40°C to $+60^{\circ}\text{C}$.
- This equipment complies with protection class $> \text{IP6X}$ / EN 60529.
- This equipment must be grounded to avoid a build-up of static electricity.
- The load cell must not be used if it is defective or shows any visible damage.
- The Installation of intrinsically load cells must not be done when they were installed in a non-intrinsically safe circuit before.

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.

The load cells must be powered from an intrinsically safe circuit.

The load cells are suitable for use in areas subject to an uncontrolled dust layer.

The load cells must be protected against impacts or friction that could cause mechanically generated sparks.

The load cells enclosures include non-metallic parts that can accumulate electrostatic charges. Precautions against electrostatic charging must be implemented.

7 Maintenance

Maintenance interventions on the load cells **must** 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 personnel specifically trained for repairs of this equipment.

9 Waste Disposal

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

10 Certificates

10.1 EU-Type Examination Certificate

EU-Type Examination Certificate, *ExVeritas 22ATEX1192X*, can be downloaded on www.flintec.com

10.2 UK Type Examination Certificate

UK Type Examination Certificate, *ExVeritas 22UKEX1191X*, can be downloaded on www.flintec.com

10.3 IECEx Certificate of Conformity

IECEx Certificate of Conformity, *IECEx EXV 22.0006X*, can be downloaded on www.flintec.com

10.4 CE EU-Declaration of Conformity

CE-Declaration of Conformity can be downloaded on www.flintec.com/

10.5 UKCA-Declaration of Conformity

UKCA-Declaration of Conformity can be downloaded on www.flintec.com/