

Rev	ECN/DDC	DESCRIPTION	DATE	DRAFT	CHECK	APV'D
A		Initial Release.	02-24-17	V.J.C.	E.M.J.	V.J.C.
B		Incorporated Agency Requested Changes.	04-06-17	V.J.C.	E.M.J.	V.J.C.
C		Incorporated Agency Requested Changes.	04-07-17	V.J.C.	E.M.J.	V.J.C.
D		Incorporated Agency Requested Changes.	04-11-17	V.J.C.	L.E.G.	V.J.C.
E		Incorporated Agency Requested Changes.	04-12-17	V.J.C.	E.M.J.	V.J.C.

The notes below apply to all 6 pages in this control document

1. No revision to the drawing without prior UL approval.
2. Associated apparatus manufacturer's installation drawing must be followed when installing this equipment.
3. Install Intrinsic Safe Barriers in accordance with barrier instructions.
4. The total combined length of all wiring in the system, including the cable from each associated apparatus to and from the summing box, and to each load cell must not exceed 300 feet.
5. Installation should be in accordance with IEC/EN 60079-14.
6. The product option for use in ATEX/IECEx Zone 0 Group IIC areas is the HI 6020JB-SSX-Y-EX (shipped without cable glands):
SS = Stainless Steel enclosure
X = 1 is without trim pots, and X=2 is with trim pots
Y = blank is a 5-hole summing box enclosure, and Y=6 is a 6-hole summing box enclosure enabling connection to a second summing box
7. SB (summing box) maximum cable length 250 ft; used between the summing box and IS barriers.

WARNINGS:

1. To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing

Substitution of components may impair Intrinsic Safety and/or void Hazardous Area Approval

HARDY PROCESS SOLUTIONS					
TITLE General Control Drawing, Hazardous Area Apparatus System with HI 6020JB-SSX-Y, Load Sensor and Load Points, ATEX/IECEx					
SIZE D	FSCM 21316	DRAWING NO. 0594-0011			REV. E
FILE NAME: 0594-0011E1.VSD		SCALE: NONE	SHEET 1	OF 6	

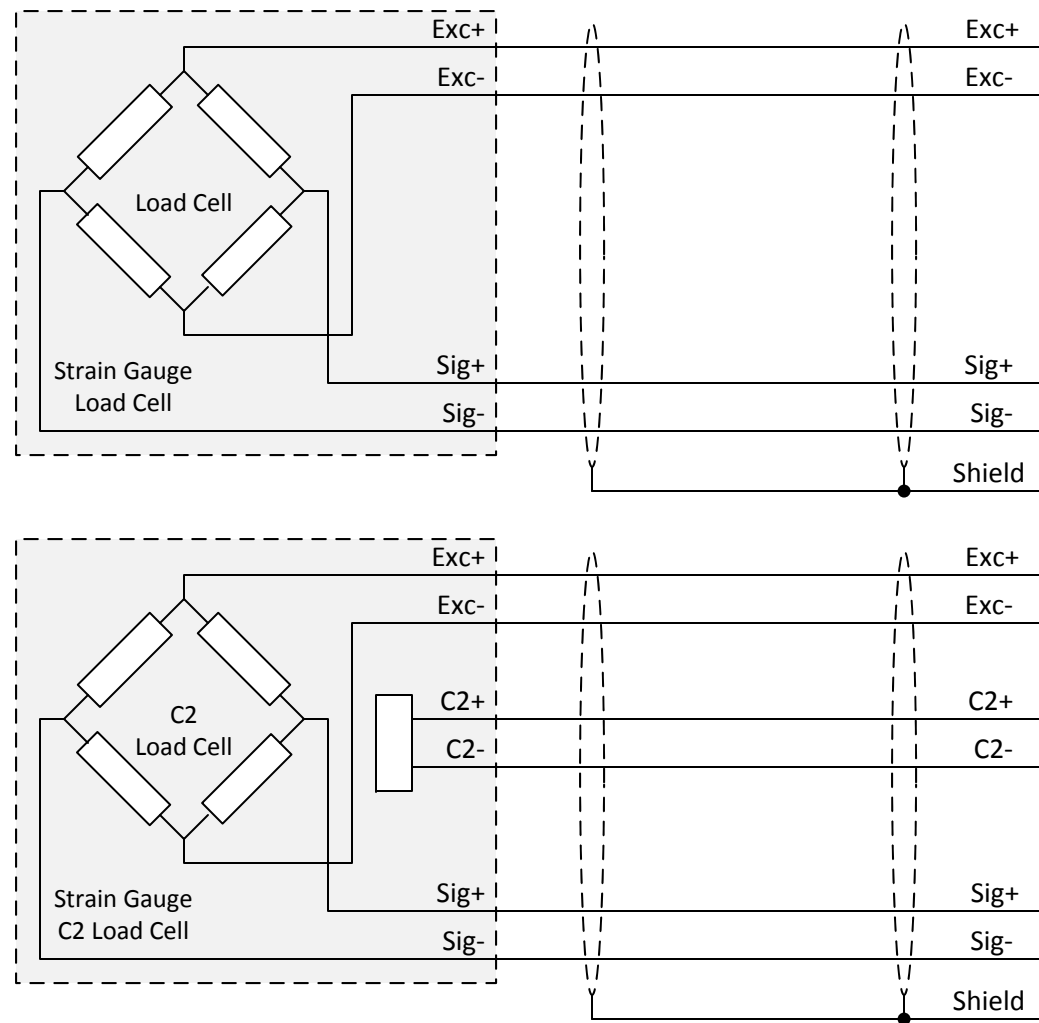
Intrinsic Safety Barriers Approved For Use In This System (ATEX/IECEX)										
Component Description	Supplier	Model	Class	Zone	Group	U _o (V)	I _o (mA)	P _o (mW)	C _o (uF)	L _o (mH)
IS Barrier Type 1 (excitation)	MTL	7766Pac	I	0	IIC	12.0	157.0	471.0	1.41	1.47
					IIB				9.00	4.40
					IIA				36.00	11.00
IS Barrier Type 2 (signals & sense)		7761Pac	I	0	IIC	9.0	26.0	225.0	4.90	56.00
					IIB				40.00	208.00
					IIA				500.00	419.00
IS Barrier Type 3 (C2)		7710+	I	0	IIC	10.0	200.0	500.0	3.00	0.91
					IIB				20.00	2.72
					IIA				100.00	7.25
IS Barrier Type 1 (excitation)	Pepperl+Fuchs	Z966.H	I	0	IIC	12.0	164.0	492.0	1.41	1.32
					IIB				9.00	5.28
					IIA				36.0	10.57
IS Barrier Type 2 (signals & sense)		Z961.H	I	0	IIC	8.7	25.0	54.4	5.9	56.88
					IIB				50.0	227.55
					IIA				1000	455.11
IS Barrier Type 3 (C2)		Z710	I	0	IIC	9.56	195.0	466.1	3.6	0.93
					IIB				26.0	3.74
					IIA				210.0	7.48
IS Barrier Type 1 (excitation)	Stahl	9002/11-130-360-001	I	0	IIC	13.0	321.0	1040.0	1.0	0.19
					IIB				6.2	1.6
IS Barrier Type 2 (signals & sense)		9002/10-187-020-001	I	0	IIC	9.33	20.0	50.0	3.9	90.0
					IIB/IIA				29.0	330.0
IS Barrier Type 3 (C2)		9001/01-086-150-101	I	0	IIC	8.6	150.0	322.5	6.2	1.3
					IIB/IIA				55.0	7.0

Notes:

1. For more information, please refer to the Zener barrier manufacturer control drawings.
2. IS Barriers used within a single system must be from the same supplier. Do not mix barrier suppliers within the same system.

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Terminology:

Load Sensor = Load Cell or C2 Load Cell
Load Point = Load Sensor and Mounting Hardware

Load Cell or C2 Load Cell Wiring to Connectors TB2, TB3, TB4 & TB5 on HI 6020JB Series Summing Card

Load Cell I.S. Entity Parameters			
Component Description	U _o (V)	I _o (mA)	P _o (mW)
Load Sensor or Load Point	29.9	511	1470
C2 Load Sensor or Load Point	29.9	511	1470

This device is intended for connection to load cells which are considered simple apparatus with the following parameters:

C_i = 0uF

L_i = 0uF

The entity concept allows interconnection of intrinsically safe apparatus with associated apparatus when the following is true:

[Field device]	[Barrier]
V _{max} or U _i	≥ V _{oc} , V _t , or U _o
I _{max} or I _i	≥ I _{sc} , I _t , or I _o
P _{max} or P _i	≥ P _o
C _i + C _{cable}	≤ C _a or C _o
L _i + L _{cable}	≤ L _a or L _o

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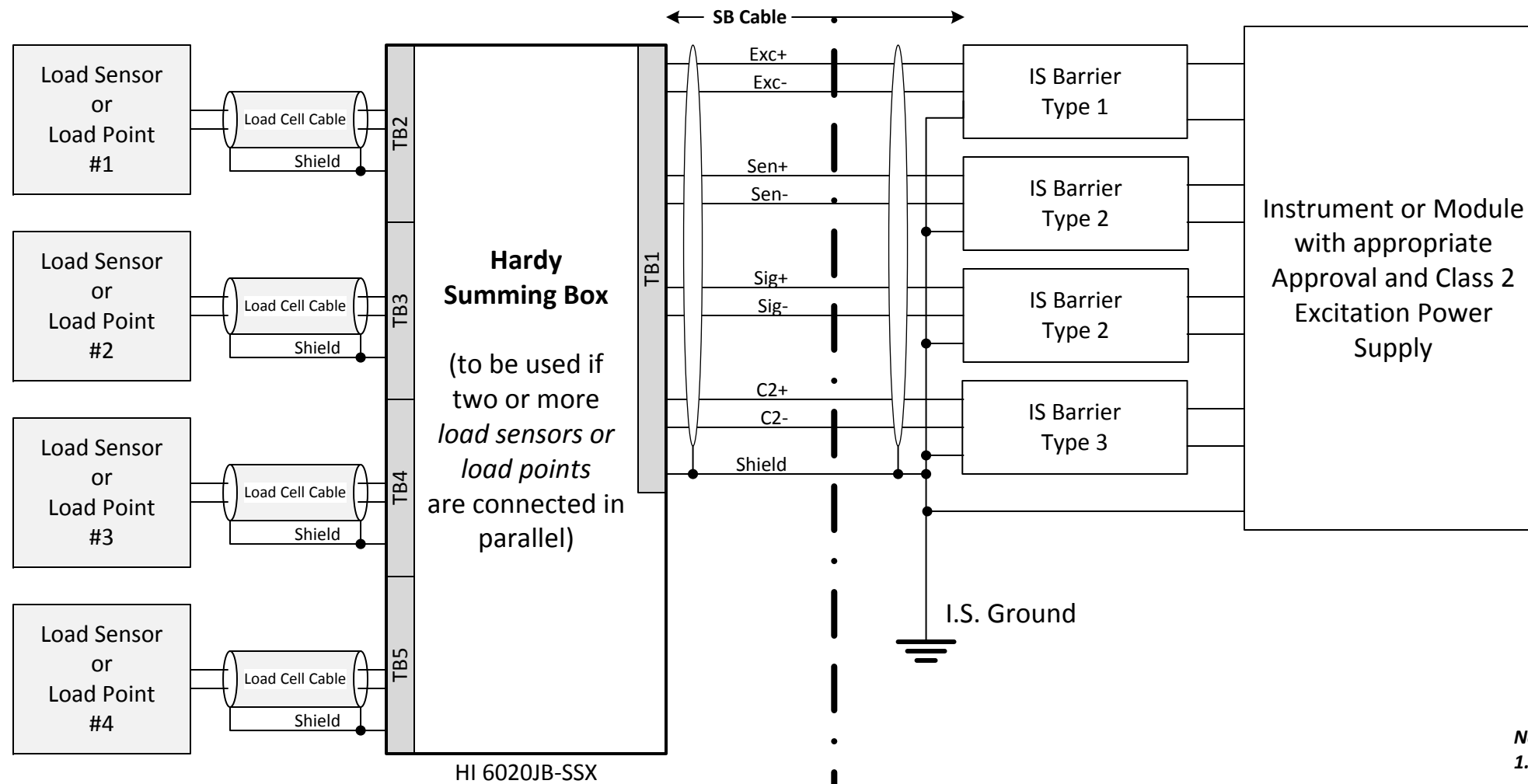
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II 1 G Ex ia IIC T4 Ga
Certificate No. DEMKO 17 ATEX 1819

Ex ia IIC T4 Ga
Certificate No. IECEx UL 17.0009

Zone 0 Hazardous Area

Unclassified Area



Notes:

1. *Optional IS barrier on the sense lines is used to automatically compensate for losses through the IS barrier on the excitation lines. If the sense lines are not used, the IS Barrier for the sense lines is not required*
2. *For customers using an instrument or module without a Class 2 rated excitation power supply, a separate Class 2 power supply can be used to power IS Barrier Type 1.*

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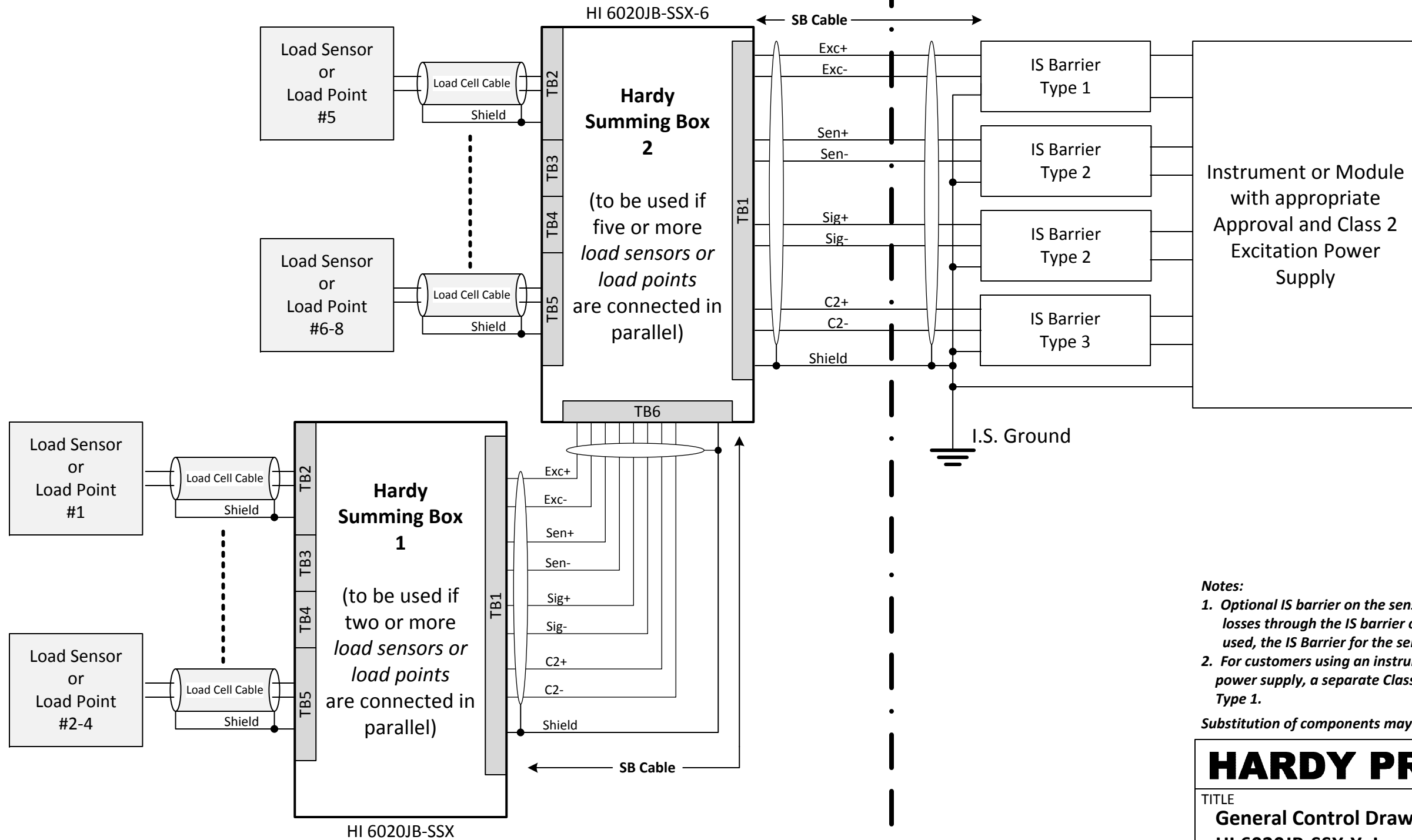
FILE NAME: **0594-0011E1.VSD** SCALE: **NONE** SHEET **4** OF **6**

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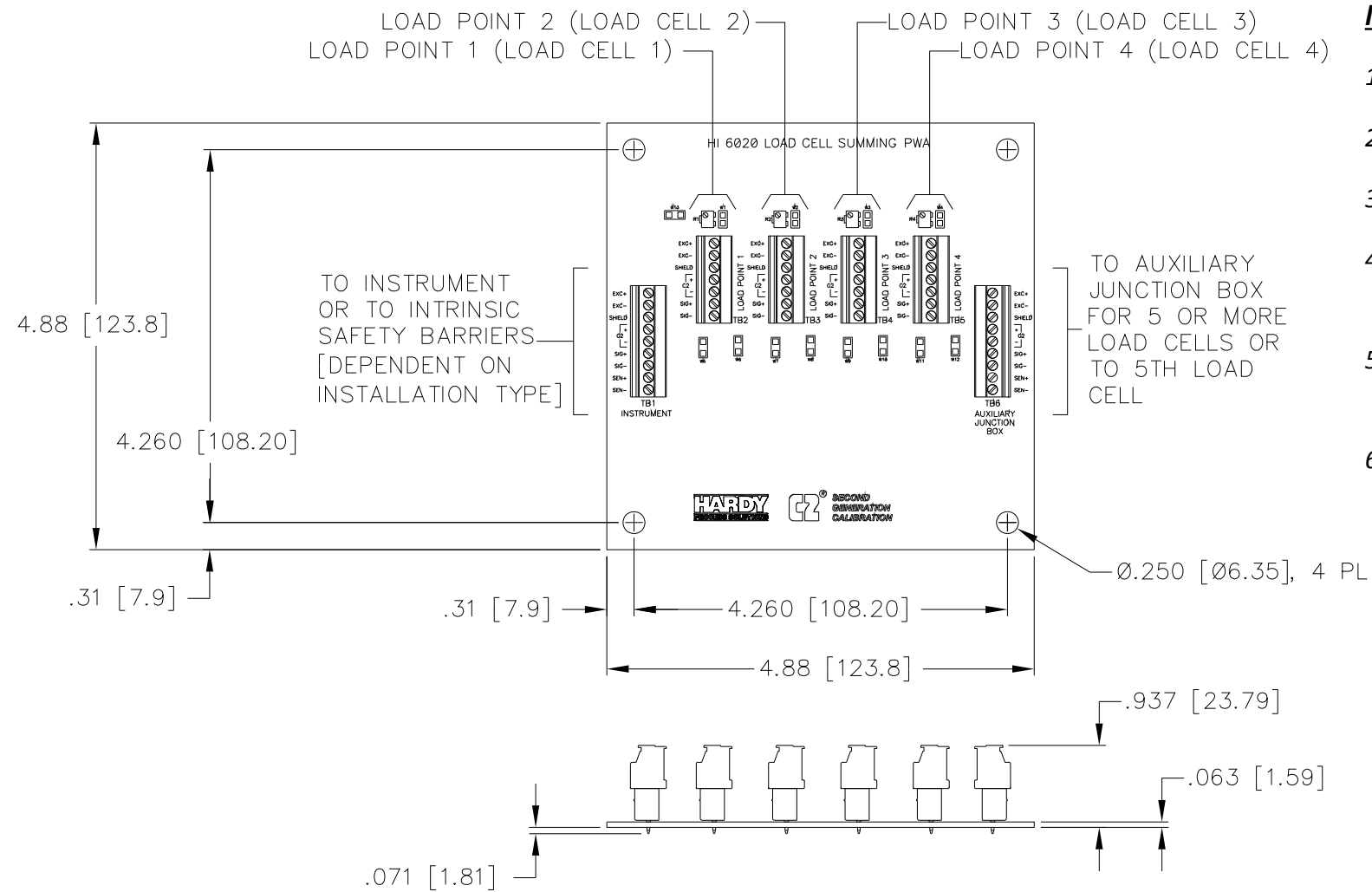
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Notes for summing box and the HI 6020JB summing card

1. Refer to load cell Calibration sheet or weighing assembly selection guide for load cell wiring code.
2. Optional trim pots can not be used with C2 load sensors or C2 load points.
3. Load Cell wire tightening torque for the terminal blocks is 2lb-in minimum to 4lb-in maximum.
4. Cable glands are not supplied on units for use in ATEX and IECEx Zone 0, Group IIC hazardous area locations. Only use cable glands that are appropriate for the hazardous area locations.
5. When a cable gland cord grip is not used a cable gland hole plug must be inserted into the hole to prevent water and/or dust ingress into the enclosure.
6. The screws on the summing box front cover must be tightened to a torque setting of 50-55 in/lb, 5.6 – 6.2 Nm.

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