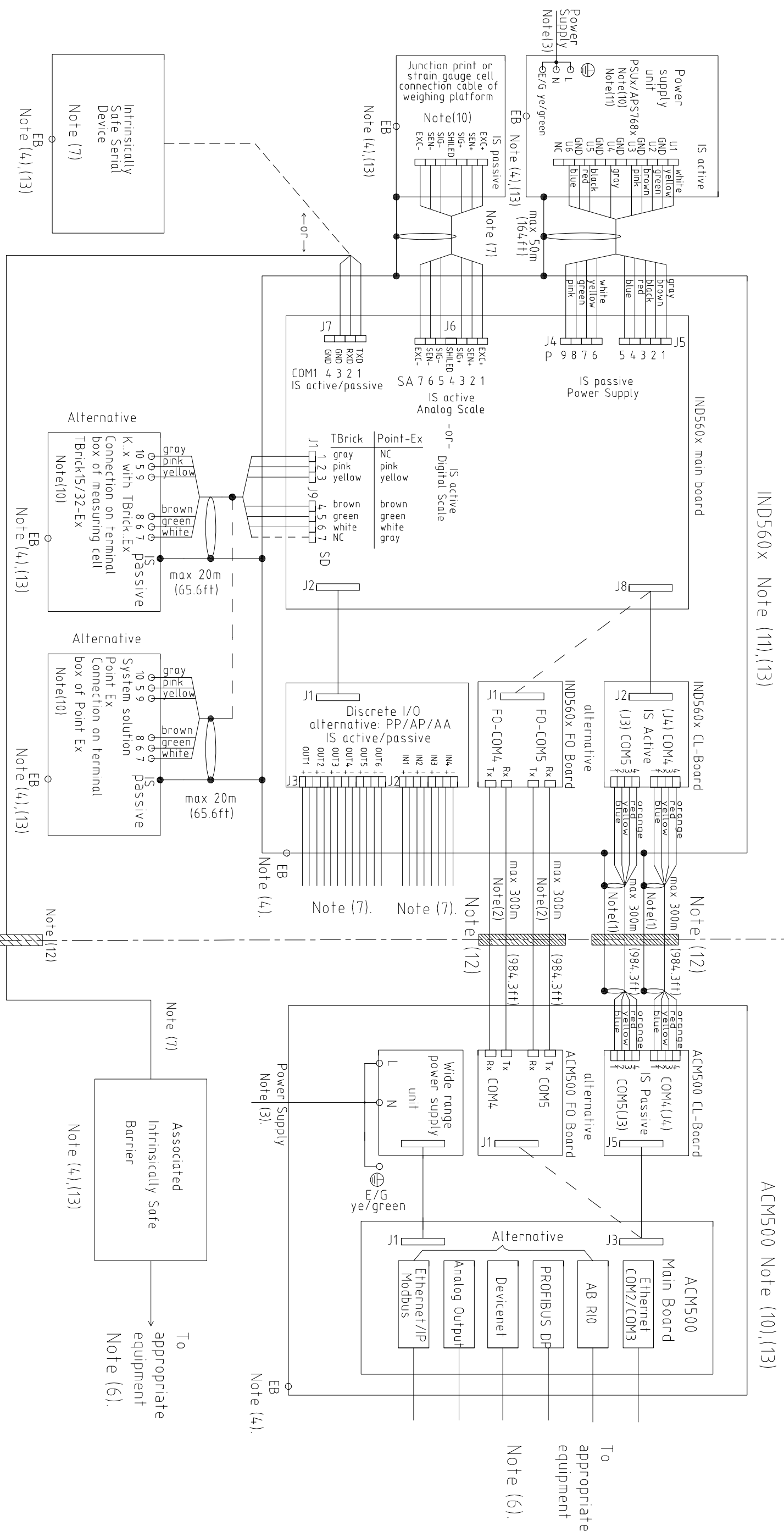


009161ZL

Hazardous area
Class I, II, III, DIV I
Groups A-G, T4, Indoor location

Safe area



Associated
Intrinsically Safe
Barrier

To appropriate
equipment
Note (6).

Control Drawing

METTLER TOLEDO

MTCN / MTCZ

Control Drawing ACM500/IND560x

E	500000007444	张勇军	12/9/11
D	2910-126	张勇军	10/11/24
C	2909-128	张勇军	09/7/22
B	2909-025	张勇军	09/4/22

设计/DRN	袁华杰	批准/APPD	日期/DATE
审核/CHECK	王琪	认证/AGEN	刘玉春
工艺/MFG	朱建忠	日期/DATE	2008.10.10

批准/Appro Mark	○ Metrology
	○ Safety
	● Ex

B C D E F G H I

13 12 11 10 9 8 7 6 5 4 3 2 1

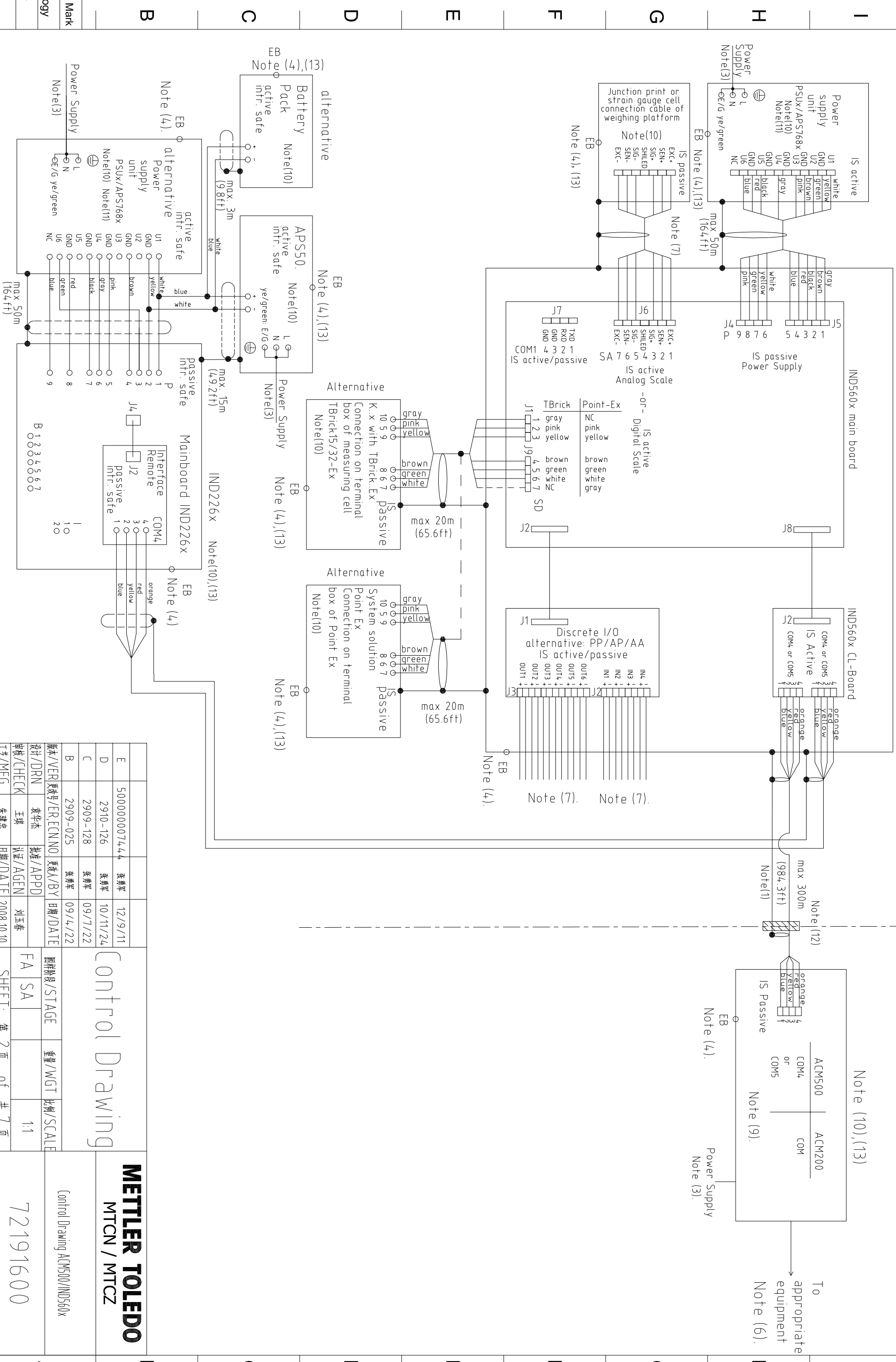
Control Drawing ACM500/IND560x
72191600

009161ZL

Hazardous area
Class I, II, III, DIV I
Groups A-G, T4, Indoor location

Safe area

IND560x Note (11)



Control Drawing

METTLER TOLEDO
MTCN / MTCZ

Control Drawing ACM500/IND560x

E	500000007444	张勇军	12/9/11
D	2910-126	张勇军	10/11/24
C	2909-128	张勇军	09/7/22
B	2909-025	张勇军	09/4/22

设计/DRN	袁华杰	批准/APPD	日期/DATE
审核/CHECK	王琪	认证/AGEN	刘玉春
工艺/MFG	朱建忠	日期/DATE	2008.10.10

附件阶段/STAGE	FA	SA	重量/WGT	比例/SCALE
SHEET: 第 2 页 of 共 7 页				1:1

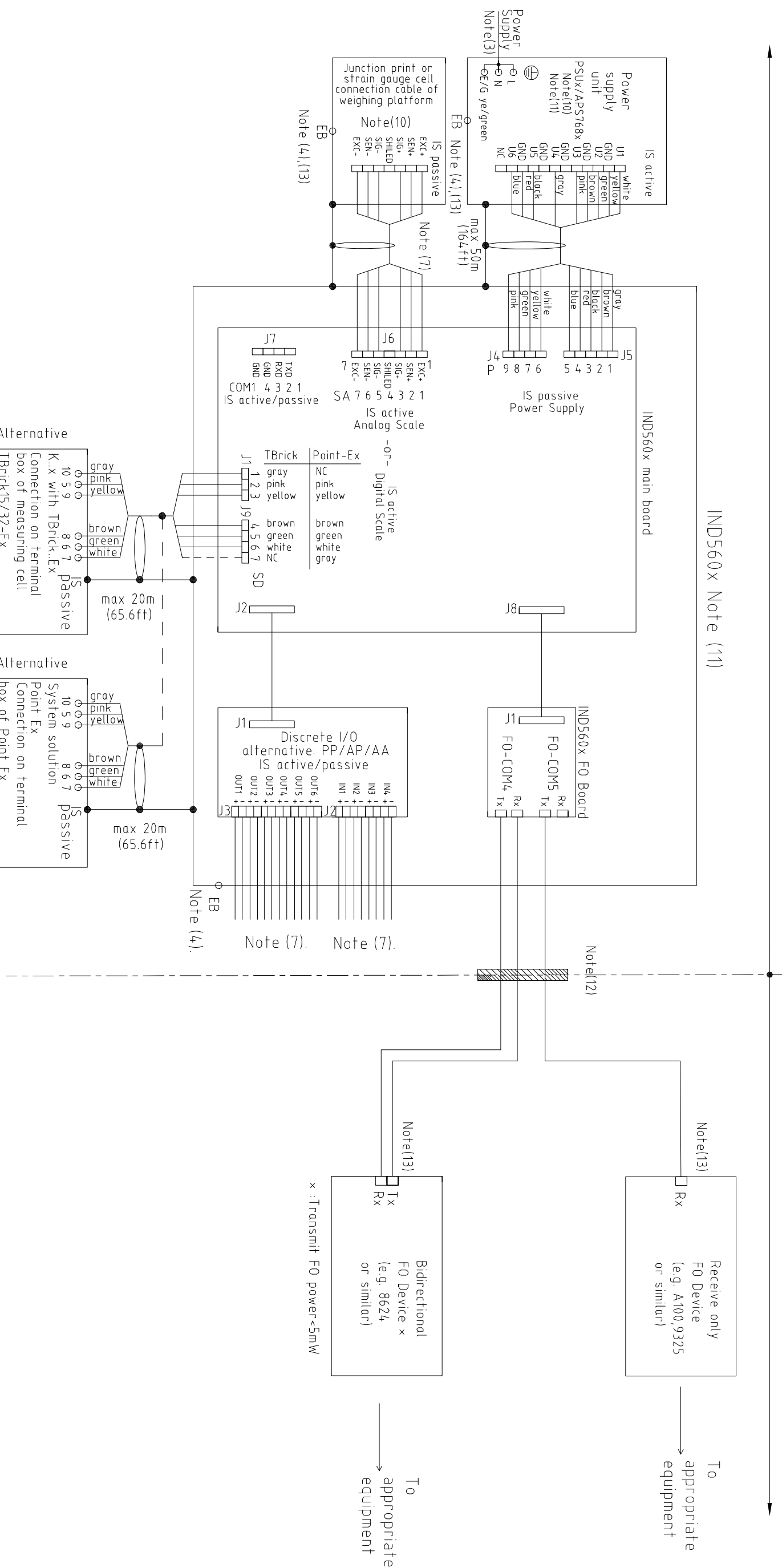
认证标志/Appro Mark	<input type="radio"/> Metrology
	<input type="radio"/> Safety
	<input checked="" type="radio"/> Ex

13 12 11 10 9 8 7 6 5 4 3 2 1

009161ZL

Hazardous area
Class I, II, III, DIV I
Groups A-G, T4, Indoor location

Safe area



●	Ex
○	Safety
○	Metrology
○	Appro Mark

E	500000007444	张勇军	12/9/11
D	2910-126	张勇军	10/11/24
C	2909-128	张勇军	09/7/22
B	2909-025	张勇军	09/4/22

设计/DRN	袁华杰	批准/APPD	日期/DATE
审核/CHECK	王琪	认证/AGEN	刘玉春
工艺/MFG	朱建忠	日期/DATE	2008.10.10

Control Drawing		标识物/STAGE	重量/WGT	比例/SCALE
FA	SA			1:1
SHEET: 第 3 页 of 共 7 页		Control Drawing ACN500/IND560x		

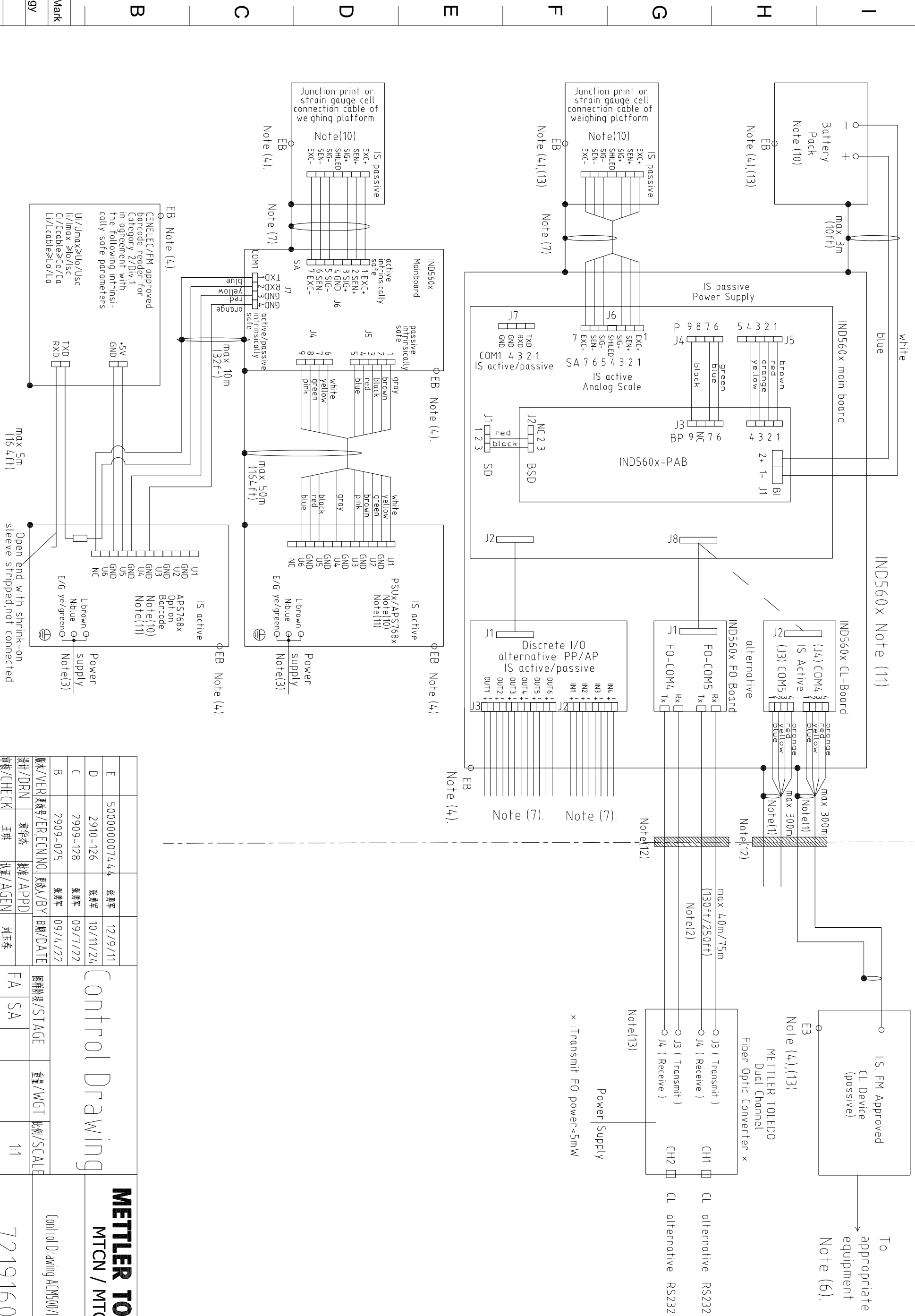
METTLER TOLEDO
MTCN / MTCZ
72191600

009161ZL

Hazardous area

Class I, II, III, DIV I
Groups A-G, T4, Indoor location

Safe area



E	500000007444	张勇军	12/9/11	Control Drawing	Mettler Toledo MTCN / MTCZ	Control Drawing ACN500/IND560x
D	2910-126	张勇军	10/11/24			
C	2909-128	张勇军	09/17/22			
B	2909-025	张勇军	09/14/22			
A						

批准/VER	更改号/REVISION NO	更改人/BY	日期/DATE
设计/DRN	袁华杰	批准/APPD	
审核/CHECK	王琪	认证/AGEN	刘玉春
工艺/MFG	朱建忠	日期/DATE	2008.10.10

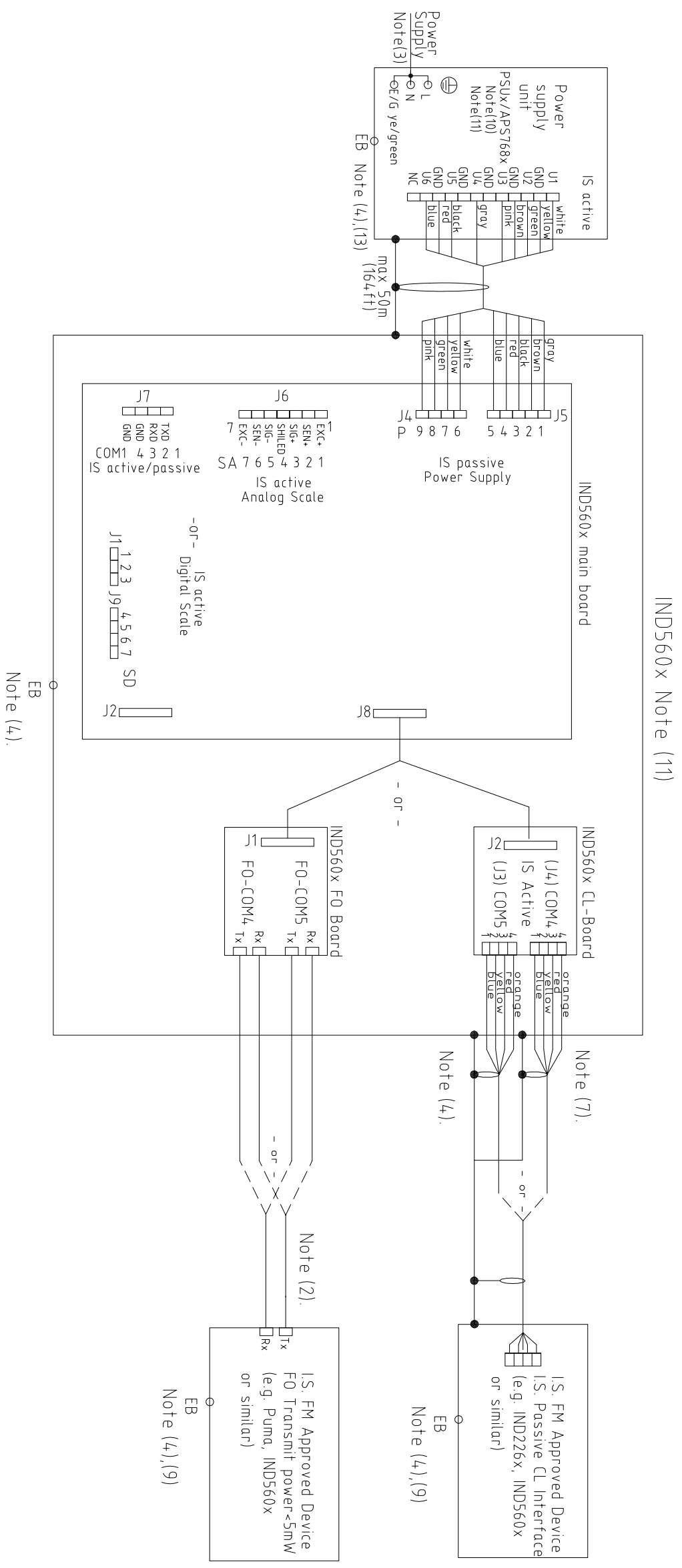
认证/Appro Mark	Metrology
	Safety
	Ex

13 12 11 10 9 8 7 6 5 4 3 2 1

009161ZL

Hazardous area
Class I, II, III, DIV 1
Groups A-G, T4, Indoor location

Safe area



批准标志/Appro Mark	
Metrology	
Safety	
Ex	

E	5000000007444	张勇军	12/9/11	Control Drawing
D	2910-126	张勇军	10/11/24	
C	2909-128	张勇军	09/7/22	
B	2909-025	张勇军	09/4/22	
版本/VER.更改号/R.E.C.N.NO.1 更改人/BY 日期/DATE				
设计/DRN 袁华杰		批准/APPD 刘玉春		
审核/CHECK 王琪		认证/AGEN 刘玉春		
工艺/MFG 朱建忠		日期/DATE 2008.10.10		

Control Drawing ACH500/IND560x		
METTLER TOLEDO		
MTCN / MTCZ		
Control Drawing ACH500/IND560x	重量/WGT	比例/SCALE
72191600		1:1

13 12 11 10 9 8 7 6 5 4 3 2 1

13 12 11 10 9 8 7 6 5 4 3 2 1
009161ZL

IND560x Intrinsically safe entity parameters

I Power Supply

Passive	Ui/V	Ii/mA	Pi/W	CI/uF	LI/mH
P1(J5.1)	10.5	74	0.78	0.24	-
P3(J5.3)	5.9	24.0	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	4.2	0.53	-	-
P9(J4.4)	7.15	107	0.77	0.24	-

G Analog Scale Interface

Active	Uo/V	Io/mA	Po/W	Co/uF	Lo/mH
SA1-7(J6)	5.88	133	0.8	0.2	0.3

F Digital Scale Interface

Active	Uo/V	Io/mA	Po/W	Co/uF	Lo/mH
SD1(J1.1)	12.6	4.2	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

D Serial interface COM1 (RS232)

Active	Uo/V	Io/mA	Po/mW	Co/nF	Lo/uH
COM1.1/1.2 (J7.1/J7.2)	±5.36	±18.1	24.2	100	100
Passive	Ui/V	Ii/mA	Pi/mW	CI/nF	LI/uH
COM1.1/1.2 (J7.1/J7.2)	±10	-	-	Negligible	Negligible

Ri min=2970hm

B Power Input PAB

BI 1- (J1-1)	Ui/V	Ii/mA	Pi/W	CI/uF	LI/mH
Ground					
BI 2+ (J1-2)	12.0	3030	6.83	0.49	-

I Discrete I/O Board
Active/Active IO Board

Outputs Active	Uo/V	Io/mA	Po/mW	Co/nF	Lo/uH
A-OUT1+(J3.1)---A-OUT6+(J3.11)	12.6	92	627	100	4.00
Inputs Active	Uo/V	Io/mA	Po/mW	Co/nF	Lo/uH
A-IN1+(J2.1)---A-IN4+(J2.7)	5.88	2	2.94	100	100

Active/Passive IO Board

Outputs Passive	Ui/V	Ii/mA	Pi/mW	CI/nF	LI/uH
P-OUT1+(J3.12)---P-OUT6+(J3.2)	15	4.0	150	10	10
Inputs Active	Uo/V	Io/mA	Po/mW	Co/nF	Lo/uH
A-IN1+(J2.8)---A-IN4+(J2.2)	5.88	2	2.94	100	100

Passive/Passive IO Board

Outputs Passive	Ui/V	Ii/mA	Pi/mW	CI/nF	LI/uH
P-OUT1+(J3.12)---P-OUT6+(J3.2)	15	4.0	150	10	10
Inputs Passive	Ui/V	Ii/mA	Pi/mW	CI/nF	LI/uH
P-IN1+(J2.8)---P-IN4+(J2.2)	30	50	375	10	10

Serial CL data interface

Active	Uo/V	Io/mA	Po/mW	Co/nF	Lo/uH
COM4/5	5.36	107	14.4	600	4.00

Serial FO data interface

Peak light output power is Pout < 5mW at transmission data line per output FO-COM4, and FO-COM5.

Control Drawing

METTLER TOLEDO
MTCN / MTCZ

Control Drawing ACM500/IND560x

E	500000007444	张勇军	12/9/11	Control Drawing ACM500/IND560x		
D	2910-126	张勇军	10/11/24			
C	2909-128	张勇军	09/7/22			
B	2909-025	张勇军	09/4/22			
版本/VER: 更改号/RE.CN.N01 更改人/BY 日期/DATE						
设计/DRN	袁华杰	批准/APPD		图样阶段/STAGE	重量/WGT	比例/SCALE
审核/CHECK	王琪	认证/AGEN	刘玉春	FA	SA	1:1
工艺/MFG	朱建忠	日期/DATE	2008.10.10	SHEET: 第 6 页 of 共 7 页		

72191600

A

B

C

D

E

F

G

H

I

批准标志/Appro Mark
 Metrology
 Safety
 Ex

13

12

11

10

9

8

7

6

5

4

3

2

1

009161ZL

ACM500 Intrinsically safe entity parameters

ACM500 CL Board (passive) - Intrinsically Safe Entity Values

Passive interface	Ui	Ii	Pi	Ci	Li
COM4, Terminals 1-4	10 V	300 mA	500 mW	120 nF	0 mH
COM5, Terminals 1-4	10 V	300 mA	500 mW	120 nF	0 mH

Table 1

ACM500 FO Board (active)

Fiber optic light output power (Pout) for COM4 and COM5 is limited to 5mW maximum per transmission data line.

Table 2

Passive interface	Ui	Ii	Pi	Ci	Li
COM, Terminals 1-4	10 V	300 mA	500 mW	120 nF	0 mH

ACM200 Intrinsically safe entity parameters

- Install cable seal between differently rated areas per country-specific regulations.
- Various combinations of the options shown are possible based on physical hardware limits of the IND560x terminal.

CENELEC approval

Cables conforming to EN50039 and EN60079-14 for intrinsically safe circuits

CFMus approval

For installation please refer to ANSI/ISA RP 12.06.01, "Installation of intrinsically-safe devices in CLASS I hazardous areas"
Canadian installation in accordance with Canadian Electrical Code C22.1
Cable as per country-specific regulations for intrinsically - safe circuits

- Don't connect cable shield at ACM500 end. Maximum length 300m (1000 ft.).
- HCS Fiber maximum length 300m (1000 ft.) or POF Fiber maximum length 40m (130ft) @115Kbd and 75m (250ft) @9600bd.

3. Mains connection in accordance with country-specific regulations; for supply voltage and frequency refer to rating plate.

- Connection of equipotential bonding (EB) as per country-specific regulations. It must be ensured that the housings of all devices are connected to the same potential via the EB terminals. No circulating current may flow via the shielding of the intrinsically safe cables.
- Connection of equipotential bonding (EB) as per ANSI/NFPA 70, Article 504 and ANSI/IA RP 12.06.01 or Canadian Electrical Code C22.2. It must be ensured that the housings of all devices are connected to the same potential via the EB terminals. No circulating current may flow via the shielding of the intrinsically safe cables.

5. Install cabling securely so that it is protected from damage and it does not move.

6. Maximum input voltage permitted: Um=250Vrms or DC.

7. Connection to an intrinsically safe approved apparatus in accordance with following conditions:
 $U_i \geq U_o$ (Voc) $C_i + C_{cable} < C_o$ (Ca)
 $I_i \geq I_o$ (Isc) $L_i + L_{cable} < L_o$ (La)
 $P_i \geq P_o$

Discrete I/O active input: connection to simple apparatus according NEC (NFPA 70), section 504.2 and 504.4

8. Ambient temperature range: -10°C to +40°C

9. Installation as described ACM500 installation information 64,061976 (multilingual), installation as described IND560x installation information 64,061929 (multilingual), installation as described IND226x/ACM200 installation information 72203959 (German) 72210036 (US), installation as described Puma installation information D14,724,300A.

10.	FM project	FMc or CSA
IND560x	3035339	3035339C
IND226x	3028618, 3030647	3028618C, 3030647C
ACM200	3030961	3030961C
ACM500	3034372	3034372C
PSUX	300810, 3024135	1360311(CSA)
APSS768x	304,0399	304,0399C
Battery Pack	3031092	3031092C
TBrickEx	3017821	164,7044(CSA)
PointEx	3020293	1620259(CSA)
APSS500/501	3031533	3031533C

11. Also certified according NEC505: AEx ib IIC T4 Zone1 or AEx me [ib] IIC T4

Control Drawing

METTLER TOLEDO

MTCN / MTCZ

Control Drawing ACM500/IND560x

72191600

<input type="radio"/> Metrology	认证标志/Appro Mark
<input type="radio"/> Safety	
<input checked="" type="radio"/> Ex	