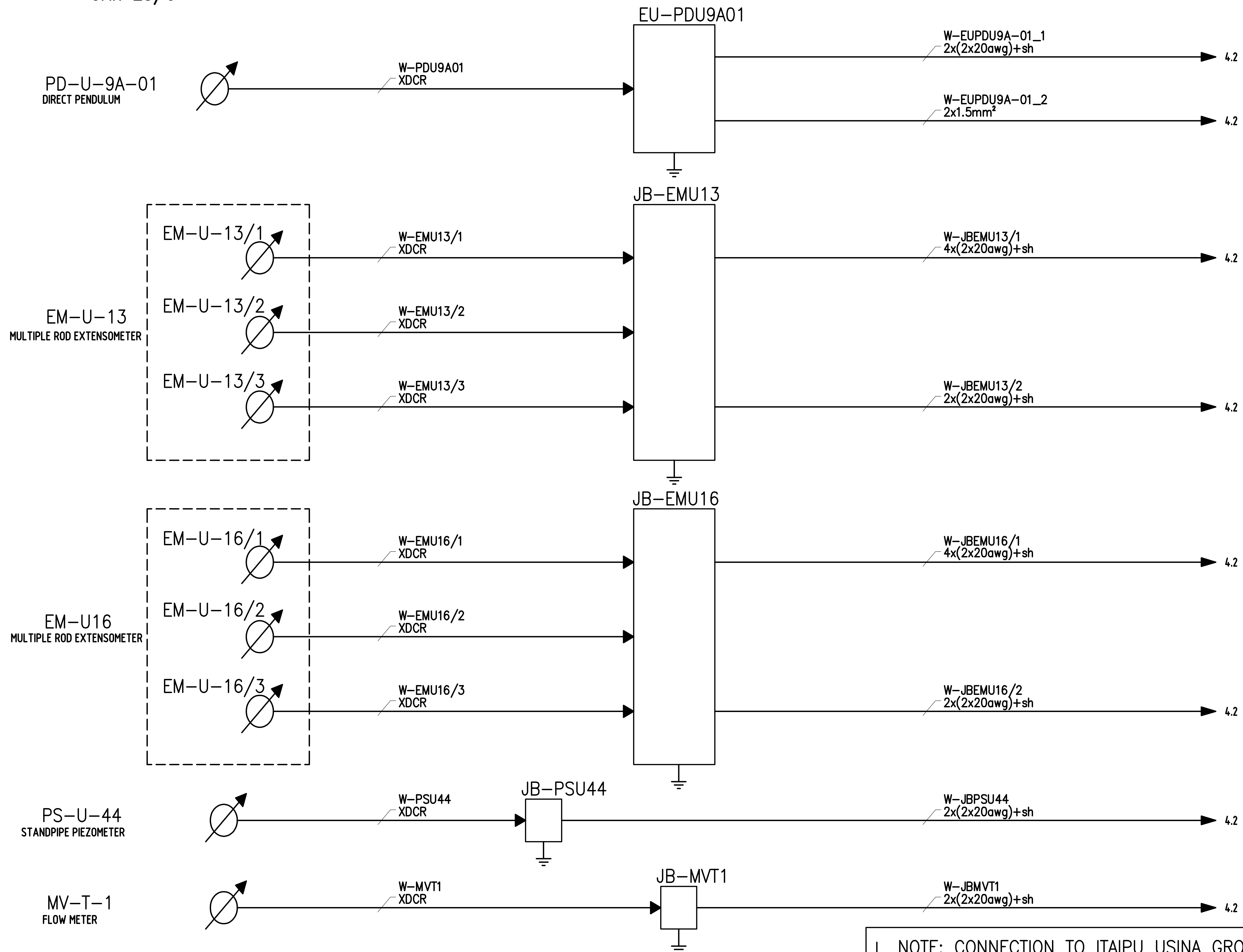


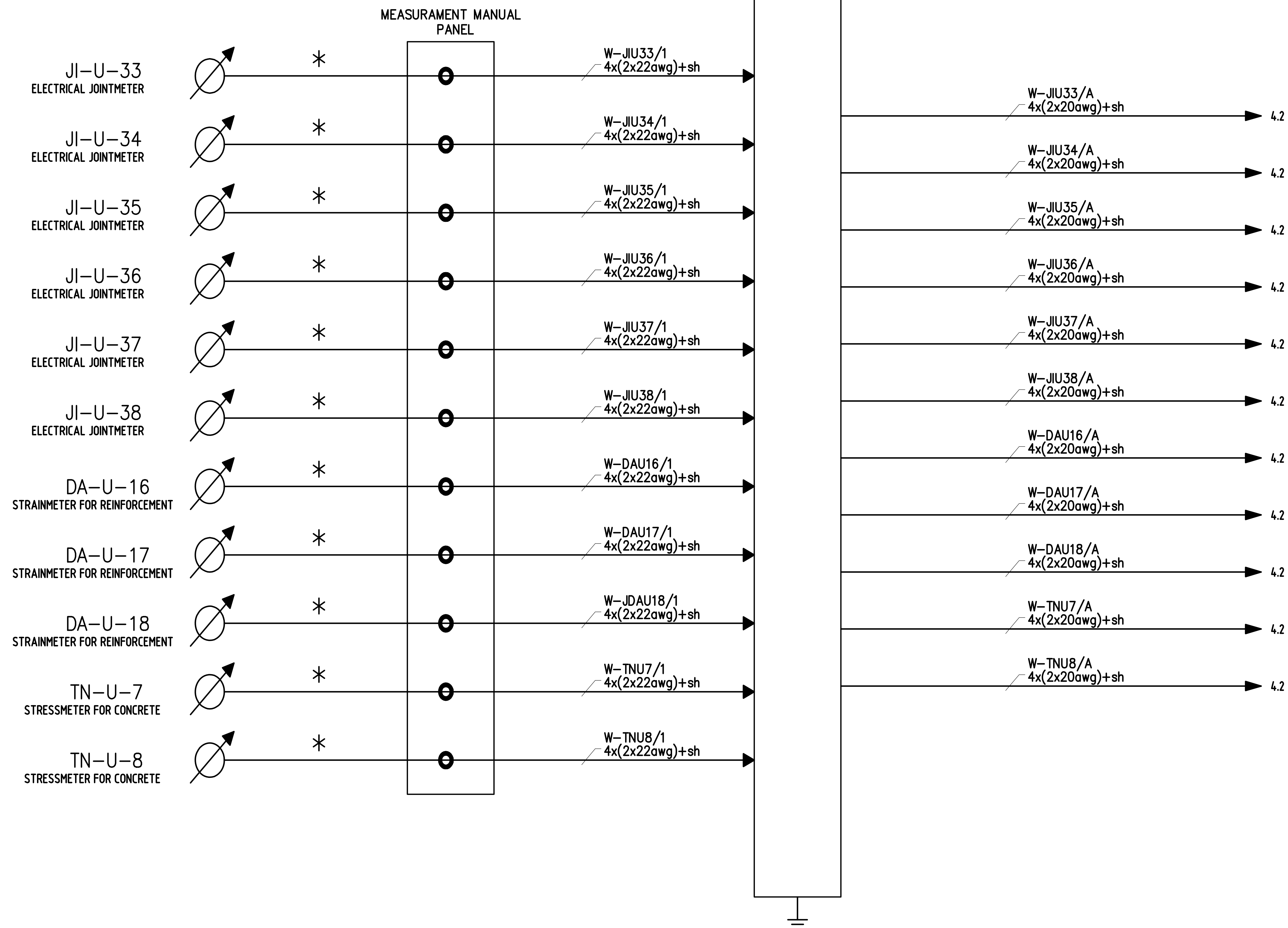


# SENSORS UAR 23/U

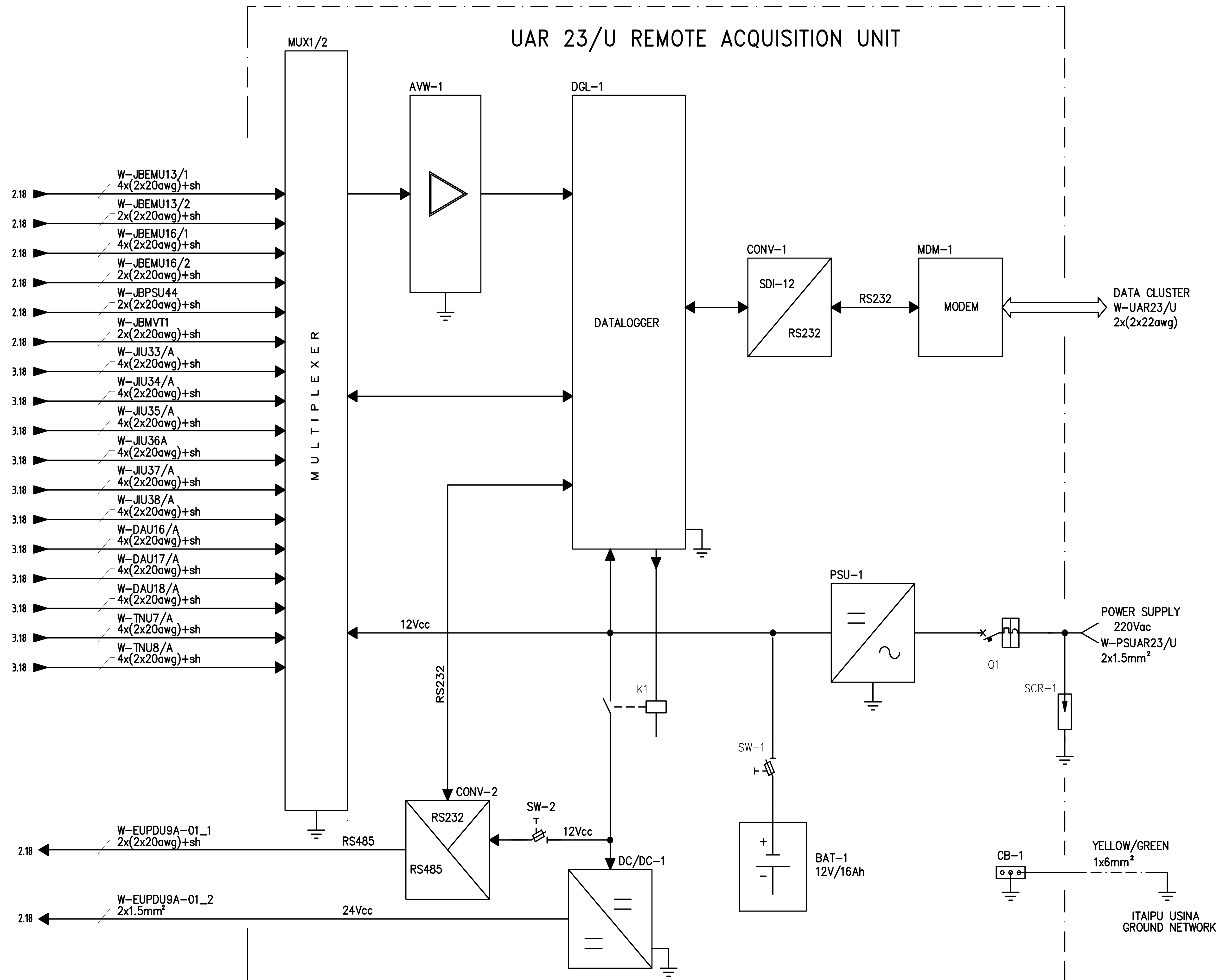


NOTE: CONNECTION TO ITAIPU USINA GROUND NETWORK  
IF AVAILABLE IN THE VICINITY OF THE INSTALLATION POINTS

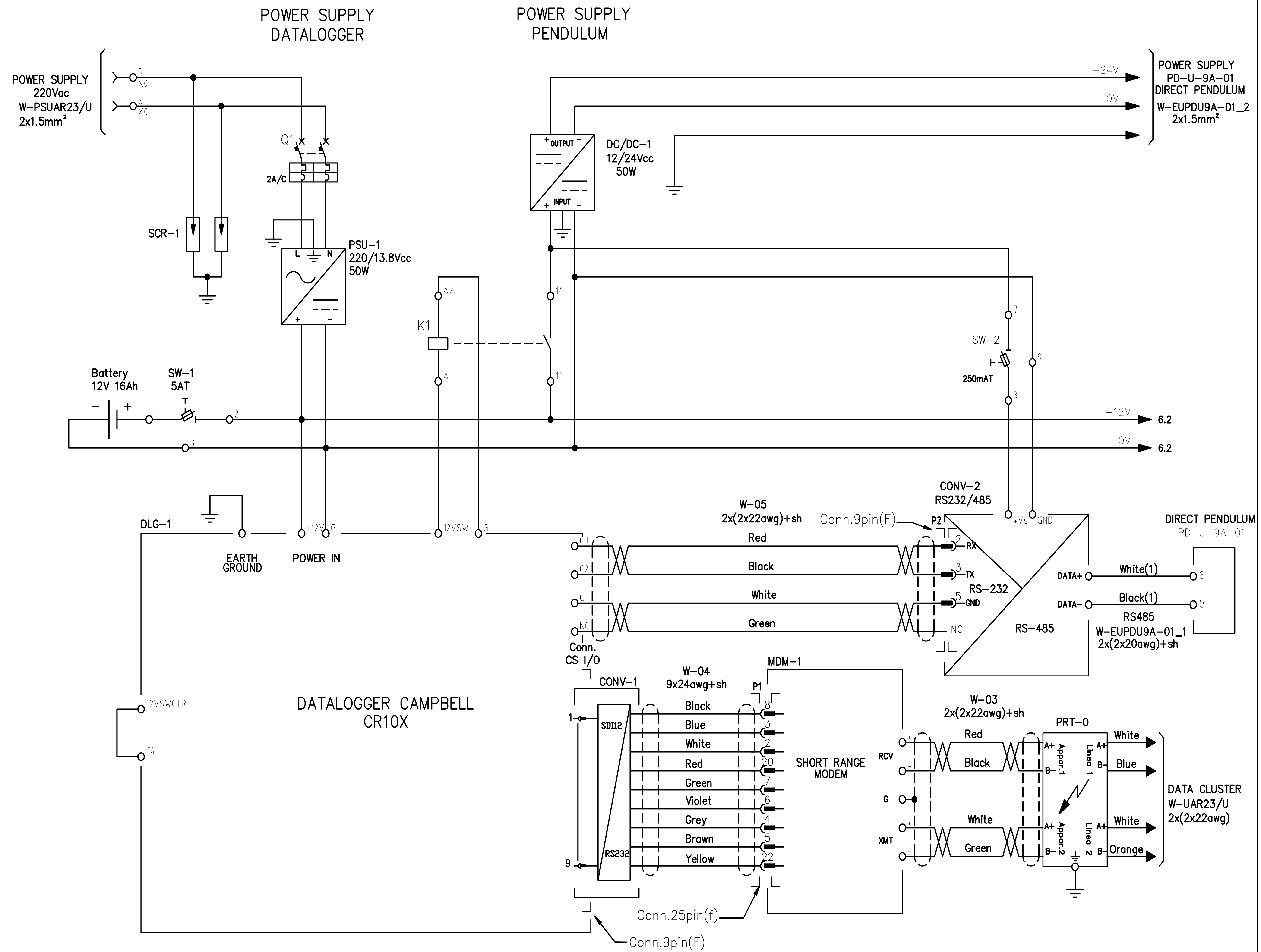
# SENSORS UAR 23/U



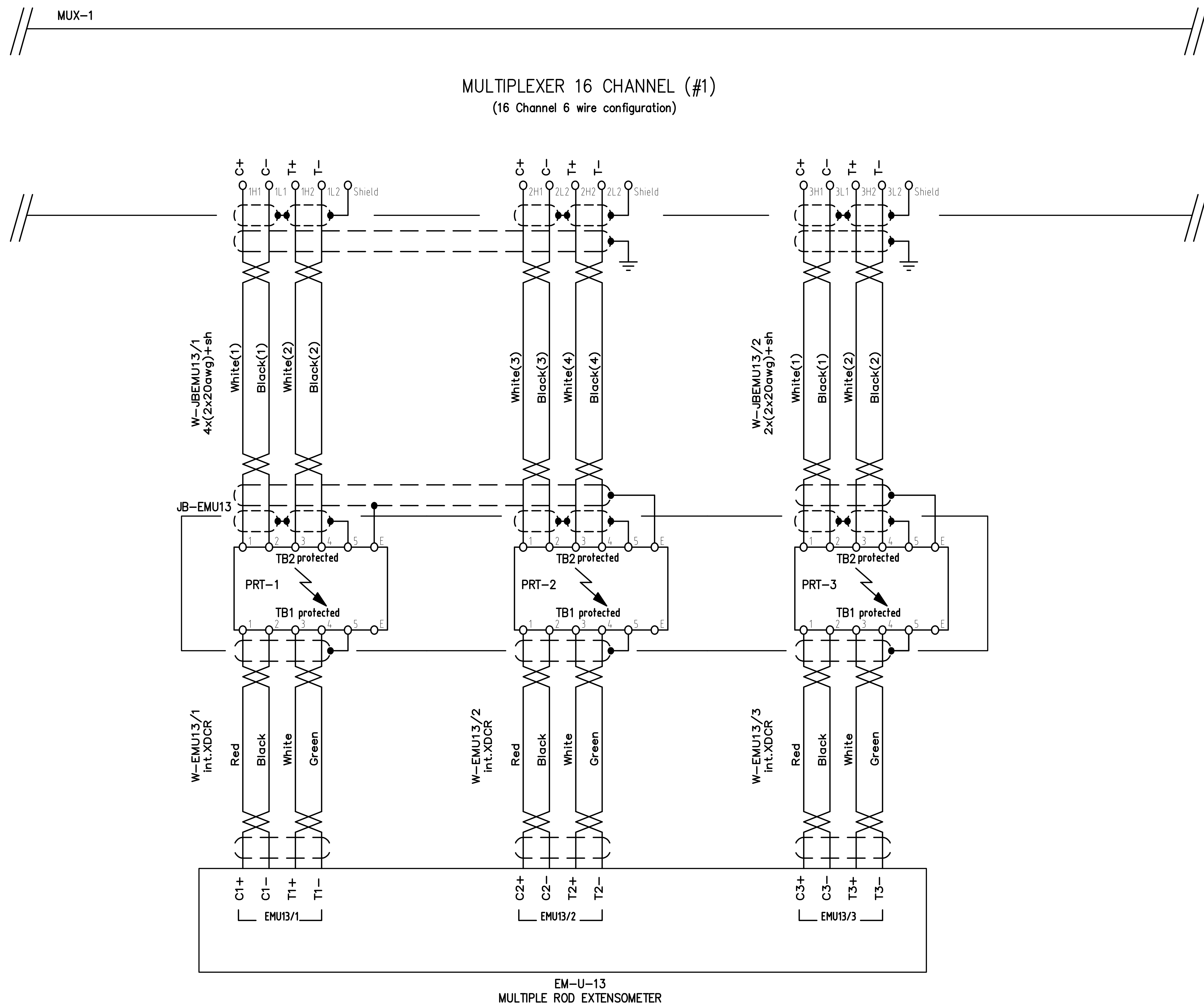
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20



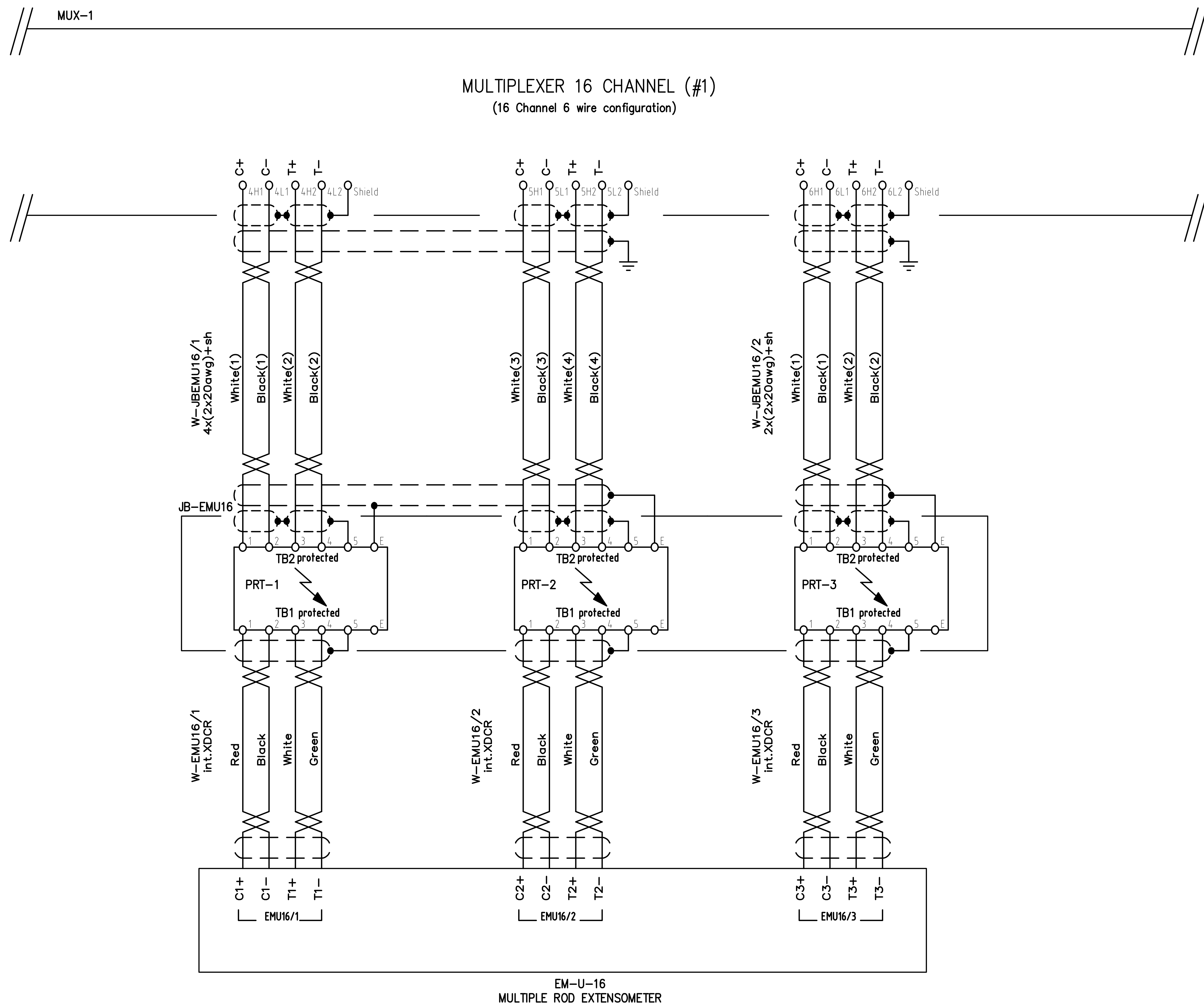
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20







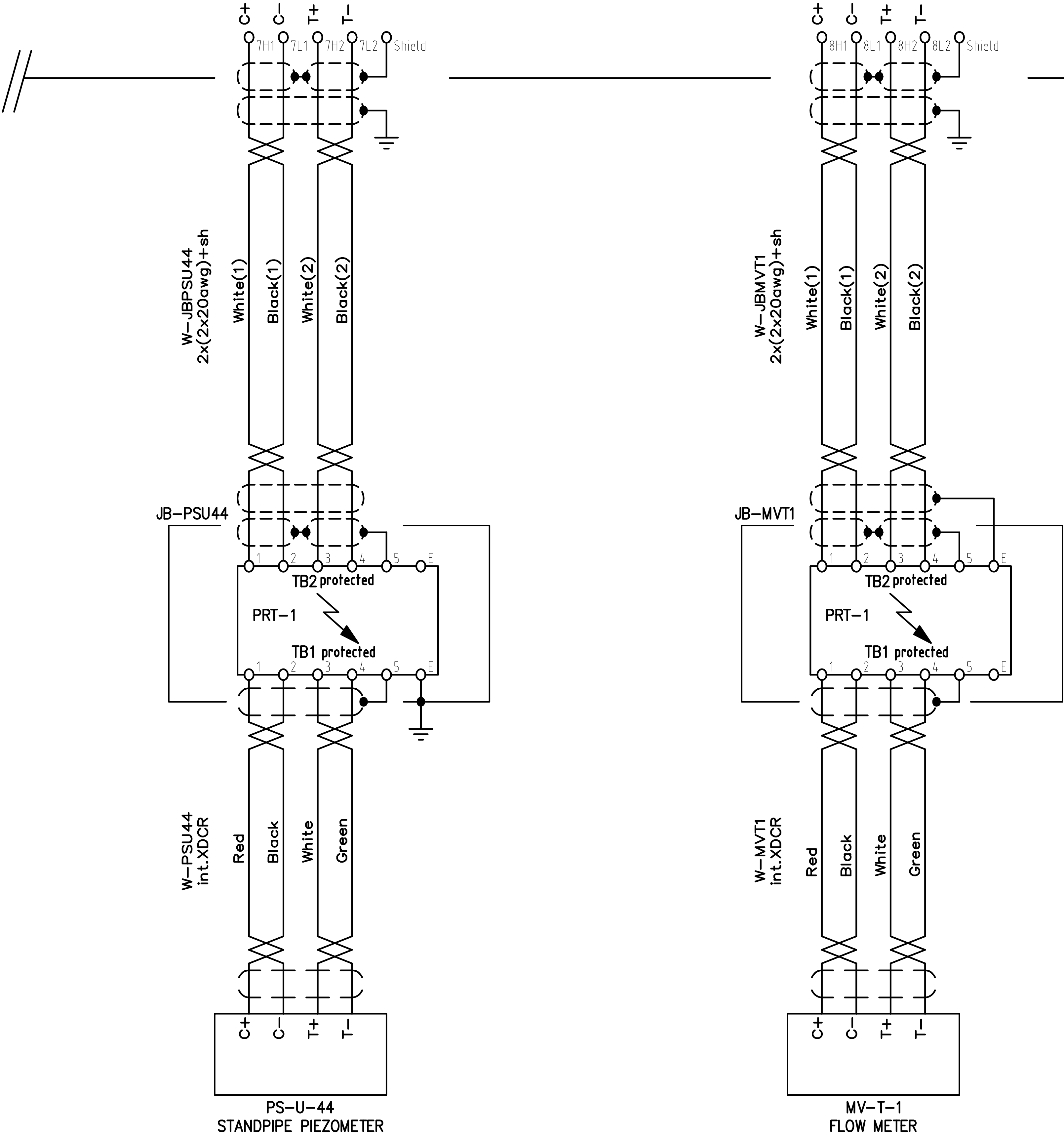
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20



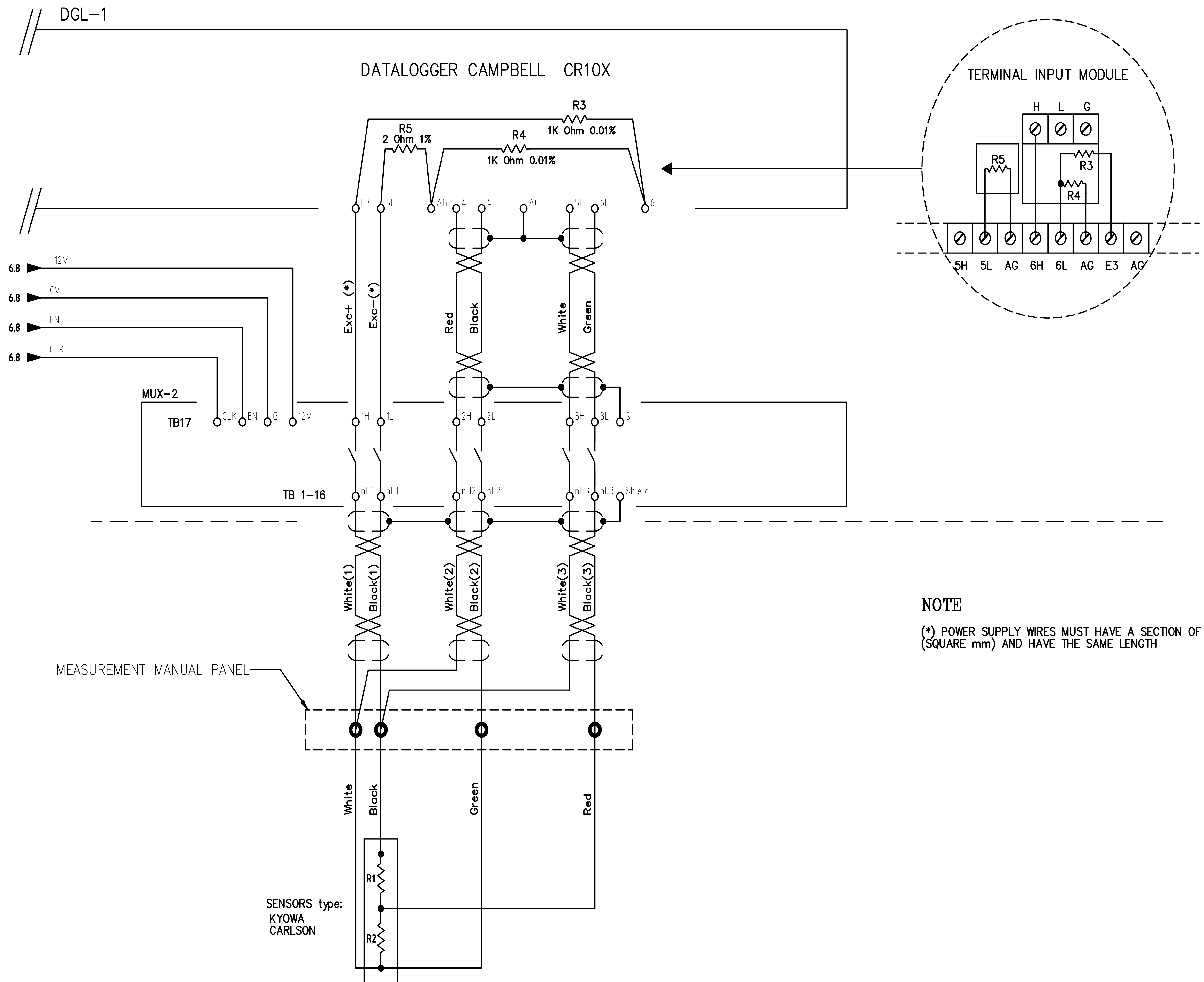


MUX-1

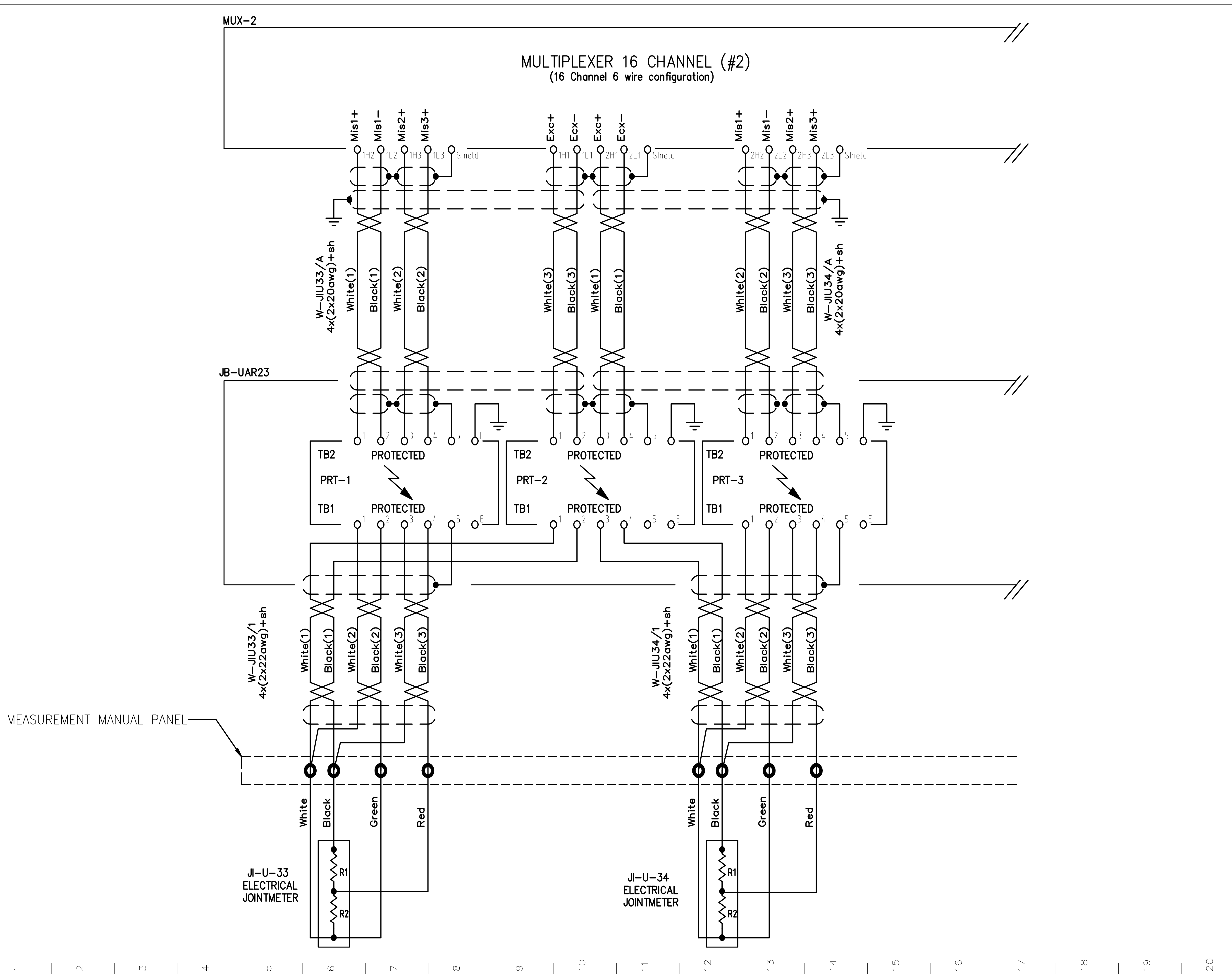
MULTIPLEXER 16 CHANNEL (#1)  
(16 Channel 6 wire configuration)

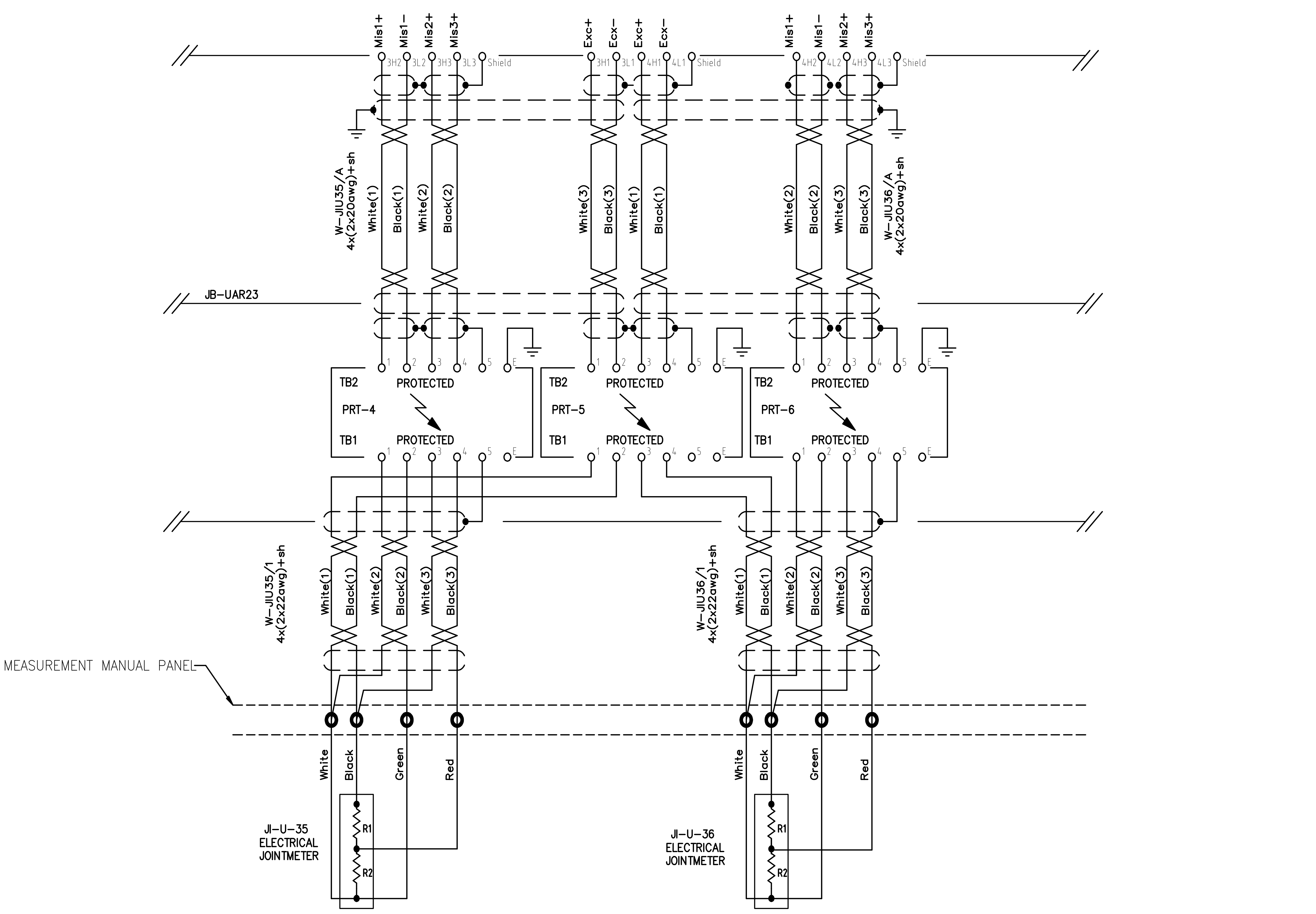


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

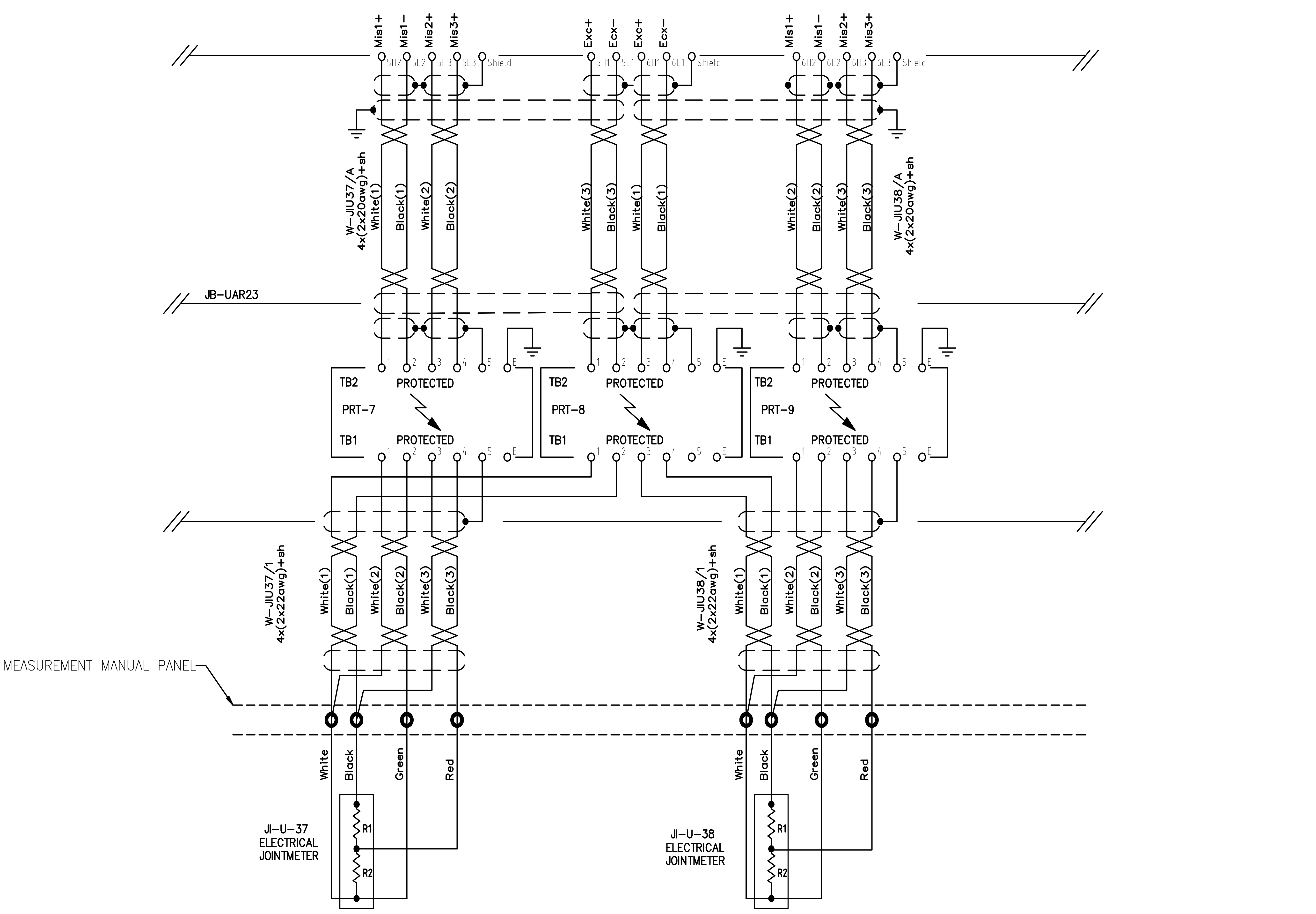


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

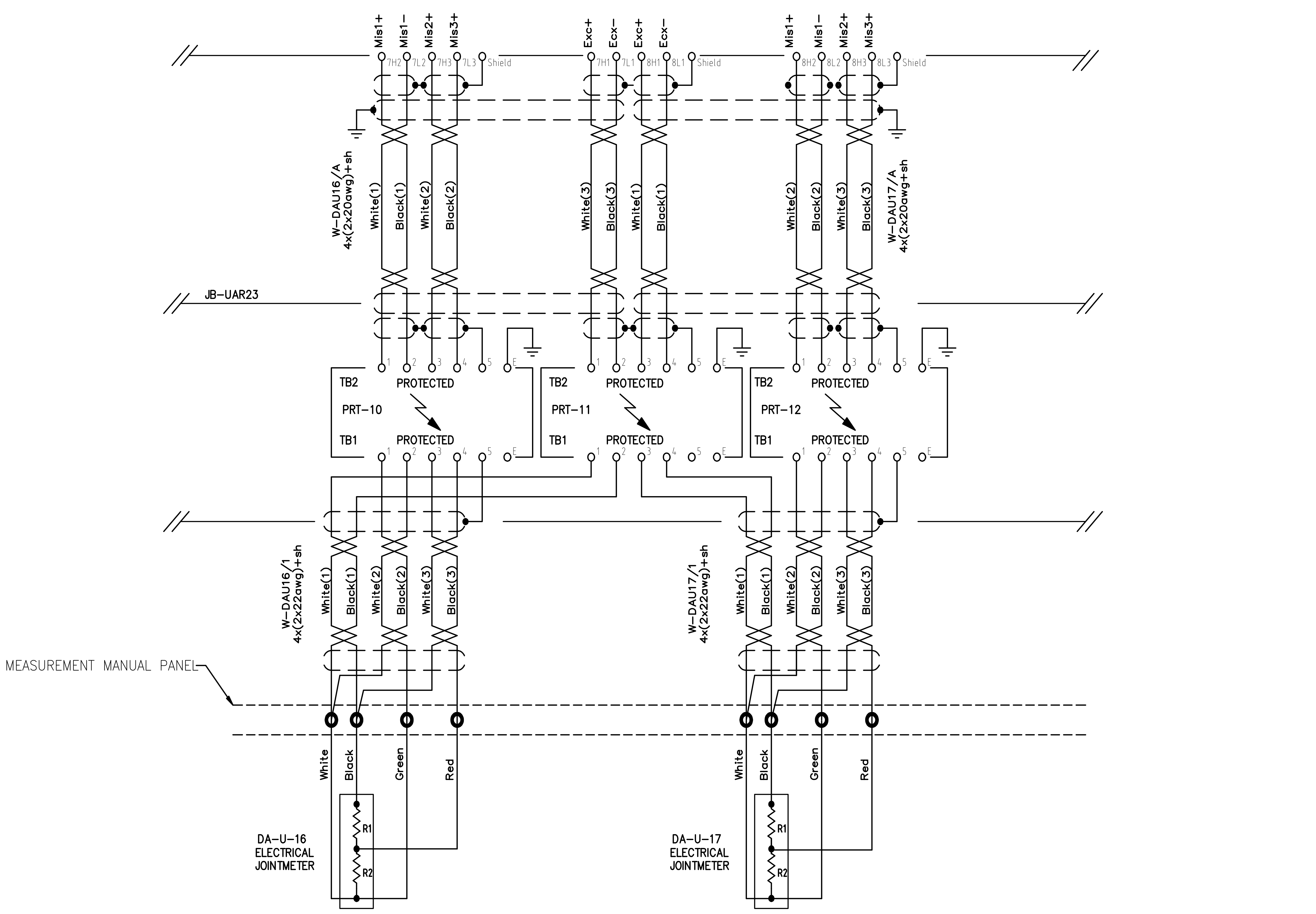




1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20



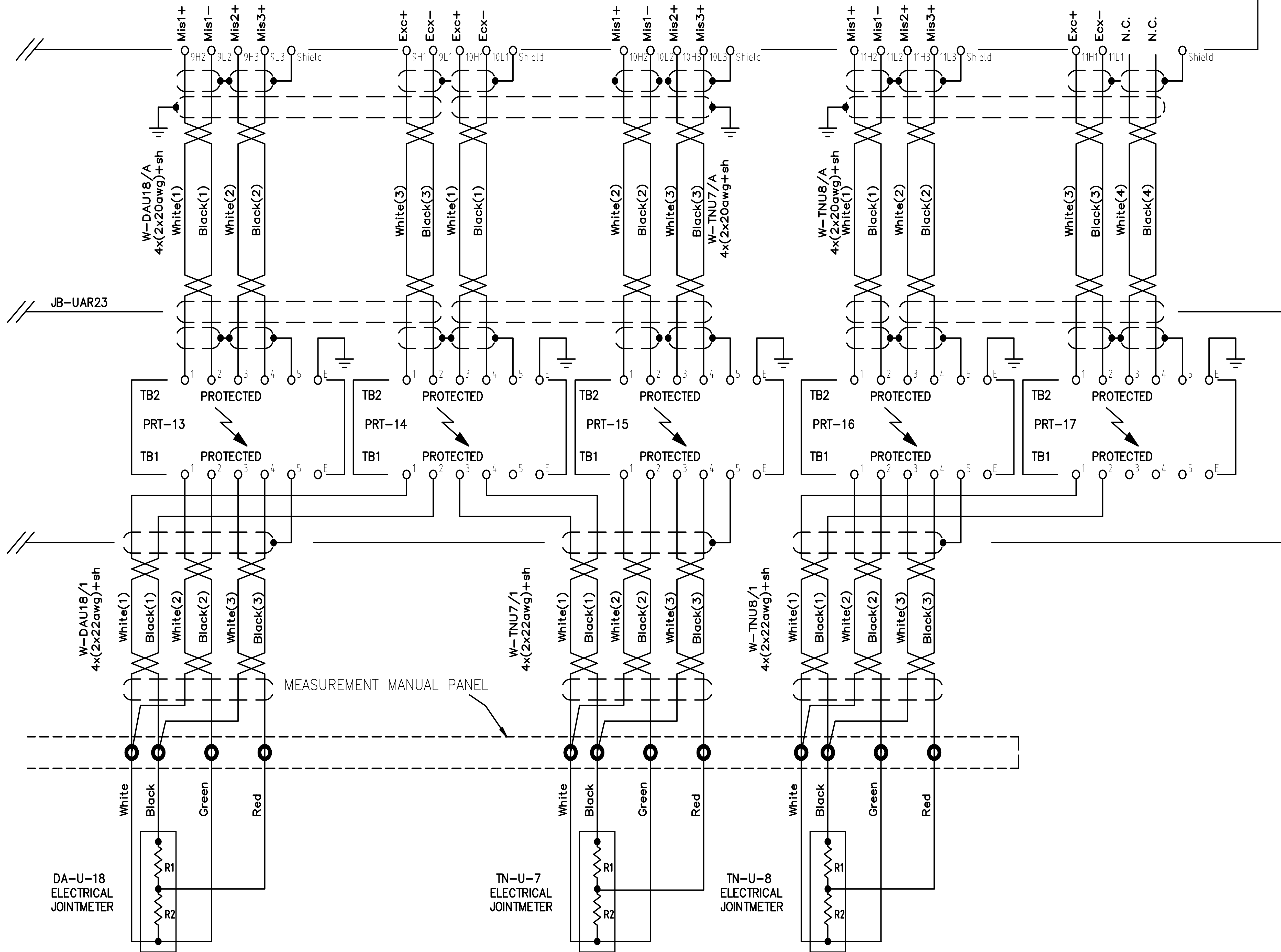
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20



1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20

MUX-2

# MULTIPLEXER 16 CHANNEL (#2) (16 Channel 6 wire configuration)



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16

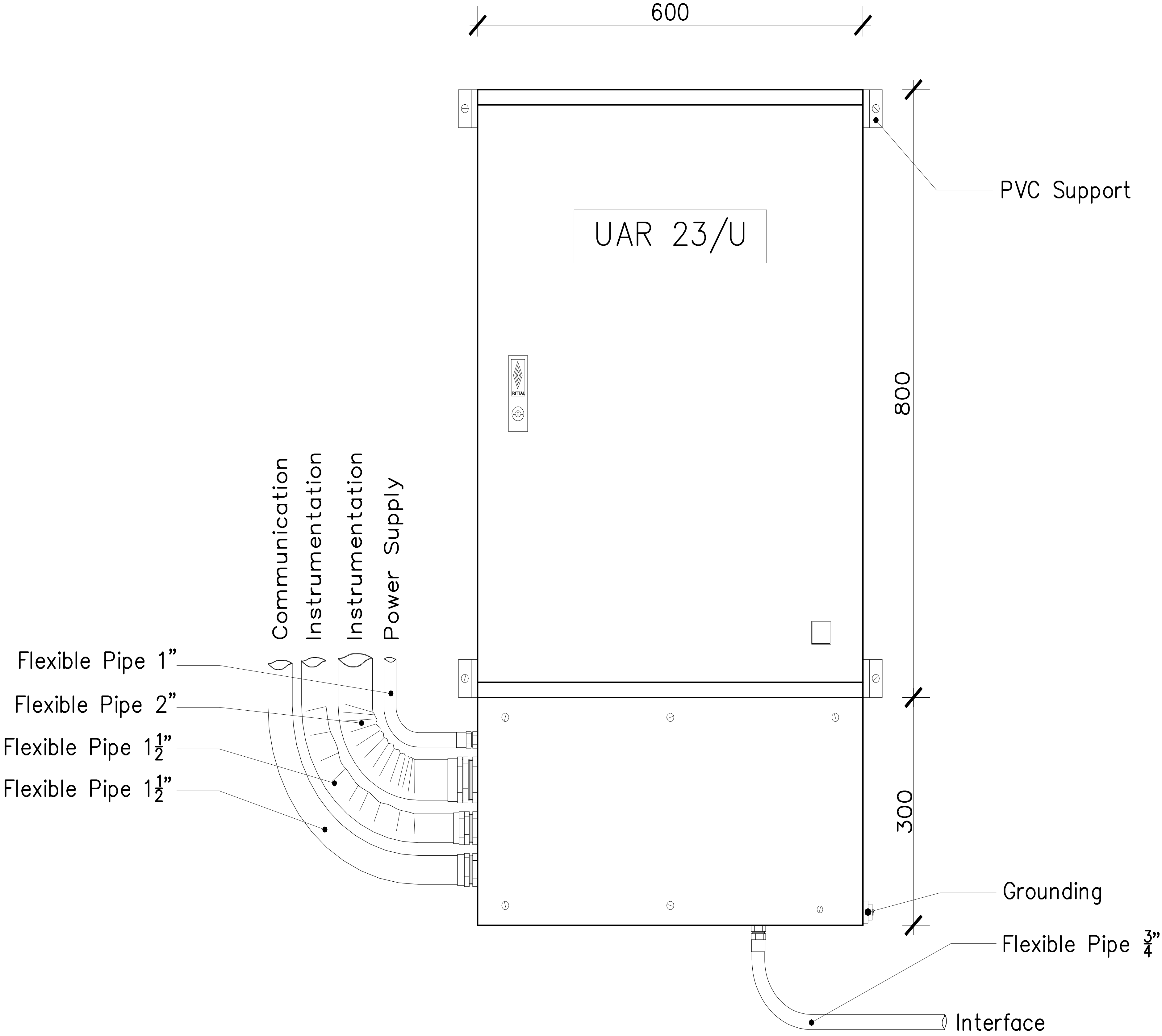
17

18

19

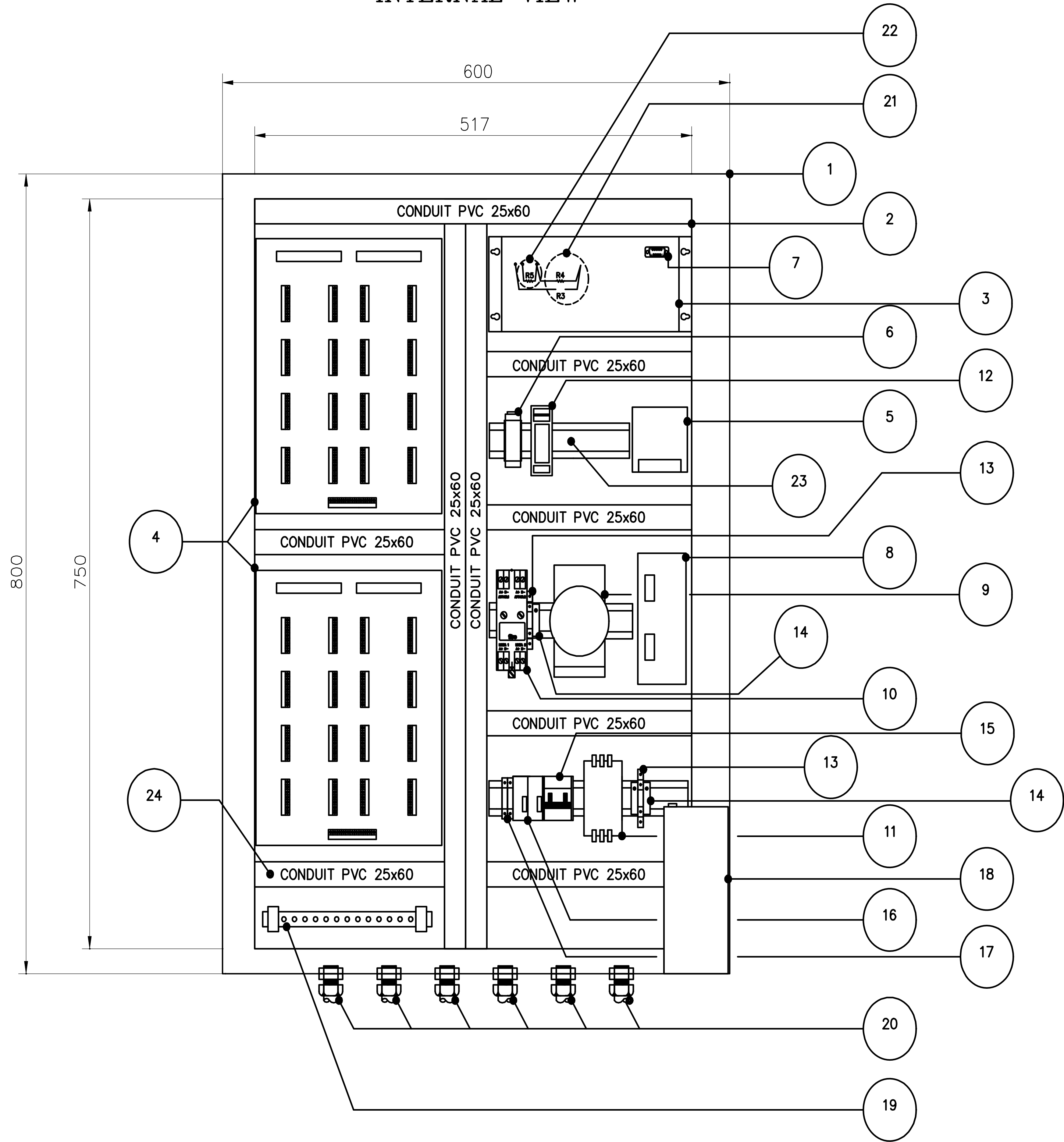
20

CONDUITS IDENTIFICATION





INTERNAL VIEW



1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20

Label	POS.	DESCRIPTION	QTY	CODICE	COSTRUCTOR	NOTE
UAR	1	EQUIPMENT ENCLUSURE dim.800x600x300mm with PLATE dim.750x517mm with FIXING SUPPORT	1	KS1468.600	RITTAL	
	2		1			
			1	14830000	RITTAL	
DLG-1	3	DATALOGGER with WIRING PANEL	1	CR10x2M	CAMPBELL	
MUX-1/2	4	MUX 16 CHANNEL 6 WIRE	2	MULTIMUX	CANARY	
AVW-1	5	VIBRATING WIRE INTERFACE	1	AVW1	CAMPBELL	
RDM-1	6	SHORT RANGE MODEM SRM-5A with SUPPORT APR724	1 1	110103-C 7272724 (2pz)	RAD FITRE	
CONV-1	7	CONVERTER SDI12/R S232 with CABLE W-04	1	SC929	CAMPBELL	
P1		CONNECTOR 25 PIN (F) typ D with CASE	1 1	126070 124683	DISTRELEC DISTRELEC	
DC/DC-1	8	CONVERTER 12Vdc 24Vdc 50W	1	9919371224	WEIDMULLER	
CONV-2	9	CONVERTER RS232/485	1	ADAM 4520	ADVANTECH	
P2		CONNECTOR 9 PIN (M) typ D with CASE	1 1	126063 124683	DISTRELEC DISTRELEC	
PRT-0	10	SURGE SOPPRESSOR PR164 with SUPPORT APR724	1 1	7272744 7272724 (2pz)	FITRE FITRE	
PSU-1	11	POWER SUPPLY 220Vac/13.8Vcc 50W	1	ML50.102	PULS	
K1	12	RELE 12Vdc	1	9406021001	WEIDMULLER	
SW-1/2	13	MANUAL SWITCH WITH FUSIBLE KDKS 1/35 with TERMINAL PLATE	1 1	950331 950333	WEIDMULLER WEIDMULLER	
	14	FIX TERMINAL	5	106120	WEIDMULLER	
Q1	15	AUTOMATIC SWITCH 2A/C	1	MC202A	HAGER	
SCR-1	16	SURGE SOPPRESSOR 220V	2	SP115D	HAGER	
X0	17	TERMINAL SAK 2.5/35 with TERMINAL PLATE	2 1	102000 105000	WEIDMULLER WEIDMULLER	
BAT-1	18	BATTERY 12V 16Ah typ DRYFIT A500	1	0789556500	SONNENSCH EIN	
CB-1	19	GROUND BAR (CU) dim.15x2mm typ NSch-24 points	1	04200	MERLIN GERIN	

Label	POS.	DESCRIPTION	QTY	CODICE	COSTRUCTOR	NOTE
	20	GLAND CABLE PG11 GLAND CABLE PG29 GLAND CABLE PG48 GLAND CABLE PG36 with THREADED RING PG11 with THREADED RING PG29 with THREADED RING PG48 with THREADED RING PG36	1 1 2 2 1 1 2 2	PR11/8 PR29m 5x9 PR48m 8x10 PR36m 4x13 D22 D26 D29 D27	TEAFLEX TEAFLEX TEAFLEX TEAFLEX TEAFLEX TEAFLEX TEAFLEX TEAFLEX	
R3–R4	21	TERMINAL INPUT MODULE	1	4WFB1K	CAMPBELL	
R5	22	POWER RESISTOR	1	320–4722	RS	
	23	DIN RAIL TS 35x7.5mm	0.75m	TS35CF5		
	24	CONDUIT PVC 25x60mm	3.5m			
W–01/03–05		CABLE 2x(2x22awg)+sh	4m			

Label	POS.	DESCRIPTION	QTY	CODICE	COSTRUCTOR	NOTE
UAR		REMOTE ACQUISITION UNIT	1	23/U	ISMES	(See Sheet 17/18)
PD-U-9A-01		INVERTED PENDULUM	1	PEEK5	ISMES	
EM-U-13/16		EXTENSOMETER INTEGRAL ELECTRICAL CABLE 5m	6 6	4450-1-50 02-250V6	GOKON GOKON	
PS-U-44		STANDPIPE PIEZOMETER INTEGRAL ELECTRICAL CABLE 5m	1 1	4500 02-250V6	GOKON GOKON	
MV-T-1		FLOW METER with: INTEGRAL ELECTRICAL CABLE 5m	1 1	4675LV 02-335VT	GOKON GOKON	
JI-U-33÷38		ELECTRICAL JOINT METERS (NOT TO BE INSTALLED)	6			Existing sensor
DA-U-16÷18		STRAINMETER FOR REINFORCEMENT (NOT TO BE INSTALLED)	3			Existing sensor
TN-U-7/8		STRESSMETER FOR CONCRETE (NOT TO BE INSTALLED)	2			Existing sensor
EU-PDU9A01		ELECTRICAL UNIT PEEK5	1	UEPEEK5	ISMES	
JB-EMU13/16		JUNCTION BOX-dim.203x254x162mm INCLUDING MOUNTING KIT, ACCESSORIES AND: LIGHITING PROTECTION BOARD	2 6	BOX-115 LAB-3	GOKON GOKON	
JB-PSU44		JUNCTION BOX-dim.152x152x102mm INCLUDING MOUNTING KIT, ACCESSORIES AND: LIGHITING PROTECTION BOARD	1 1	BOX-105 LAB-3	GOKON GOKON	
JB-MVT1		JUNCTION BOX-dim.152x152x102mm INCLUDING MOUNTING KIT, ACCESSORIES AND: LIGHITING PROTECTION BOARD	1 1	BOX-105 LAB-3	GOKON GOKON	
Measurament manual panel			1			Existing
JB-UAR23U		JUNCTION BOX-dim.800x600x300mm: with PLATE dim.750x517mm with FIXING SUPPORT with LIGHITING PROTECTION BOARD	1 1 1 17	KS1468.600  14830000 LAB-3	RITTAL  RITTAL GOKON	
		NOTE: FOR CABLES INFORMATION PLEASE REFER TO TABLE OF LIST CABLE				

CABLES IDENTIFICATION								SCOPE	PATH
CODE	ITAIPU CODE	LENGHT (m)	CABLE TYPOLOGY			CABLE END (TERMINAL)			
			Nº OF CABLES	Nº OF WIRES	SECTION	FROM	TO		
W-PSUAR23/U	HBUAR2301	10	2	2	4.0mm <sup>2</sup>	Pendulum Room	UAR 23/U	Power supply	1) 22 awg = 0,33 mm2 2) 20 awg = 0,50 mm2
W-UAR23/U	TEL-UAR23	135	1	4	22awg	T-65	UAR 23/U	Communication line	
W-PDU9A01			1		22awg	PD-U-9A-01	EU-PDU9A01	Signal cable	
W-EMU13/1			1	4	22awg	EM-U-13	JB-EMU13	Signal cable	
W-EMU13/2			1	4	22awg	EM-U-13	JB-EMU13	Signal cable	
W-EMU13/3			1	4	22awg	EM-U-13	JB-EMU13	Signal cable	
W-EMU16/1			1	4	22awg	EM-U-16	JB-EMU16	Signal cable	
W-EMU16/2			1	4	22awg	EM-U-16	JB-EMU16	Signal cable	
W-EMU16/3			1	4	22awg	EM-U-16	JB-EMU16	Signal cable	
W-PSU44			1	4	22awg	PS-U-44	JB-PSU44	Signal cable	
W-MVT1			1	4	22awg	MV-T-1	JB-MVT1	Signal cable	
W-JIU33/1			1	8	22awg	Measurement manual panel	JB-UAR23	Signal cable	
W-JIU34/1			1	8	22awg	Measurement manual panel	JB-UAR23	Signal cable	
W-JIU35/1			1	8	22awg	Measurement manual panel	JB-UAR23	Signal cable	
W-JIU36/1			1	8	22awg	Measurement manual panel	JB-UAR23	Signal cable	
W-JIU37/1			1	8	22awg	Measurement manual panel	JB-UAR23	Signal cable	
W-JIU38/1			1	8	22awg	Measurement manual panel	JB-UAR23	Signal cable	
W-DAU16/1			1	8	22awg	Measurement manual panel	JB-UAR23	Signal cable	
W-DAU17/1			1	8	22awg	Measurement manual panel	JB-UAR23	Signal cable	
W-DAU18/1			1	8	22awg	Measurement manual panel	JB-UAR23	Signal cable	
W-TNU7/1			1	8	22awg	Measurement manual panel	JB-UAR23	Signal cable	
W-TNU8/1			1	8	22awg	Measurement manual panel	JB-UAR23	Signal cable	
W-EUPDU9A-01_1	FU2318	7	1	4	20awg	EU-PDU9A01	UAR 23/U	Signal cable	
W-EUPDU9A-01_2	HBUAR2302	10	1	4	1.5mm <sup>2</sup>	EU-PDU9A01	UAR 23/U	Power supply	
W-JBEMU13/1	FU2302	260	1	8	20awg	JB-EMU13	UAR 23/U	Signal cable	
W-JBEMU13/2	FU2316	260	1	4	20awg	JB-EMU13	UAR 23/U	Signal cable	
W-JBEMU16/1	FU2303	44	1	8	20awg	JB-EMU16	UAR 23/U	Signal cable	
W-JBEMU16/2	FU2317	44	1	4	20awg	JB-EMU16	UAR 23/U	Signal cable	
W-JBPSU44	FU2301	36	1	4	20awg	JB-PSU44	UAR 23/U	Signal cable	
W-JBMVT1	FU2315	560	1	4	20awg	JB-MVT1	UAR 23/U	Signal cable	
W-JIU33/A	FU2309	330	1	8	20awg	JB-UAR23	UAR 23/U	Signal cable	
W-JIU34/A	FU2310	330	1	8	20awg	JB-UAR23	UAR 23/U	Signal cable	
W-JIU35/A	FU2311	330	1	8	20awg	JB-UAR23	UAR 23/U	Signal cable	
W-JIU36/A	FU2312	330	1	8	20awg	JB-UAR23	UAR 23/U	Signal cable	
W-JIU37/A	FU2313	330	1	8	20awg	JB-UAR23	UAR 23/U	Signal cable	

CABLES IDENTIFICATION								SCOPE	PATH
CODE	ITAIPU CODE	LENGHT (m)	CABLE TYPOLOGY			CABLE END (TERMINAL)			
			Nº OF CABLES	Nº OF WIRES	SECTION	FROM	TO		
W-JIU38/A	FU2314	330	1	8	20awg	JB-UAR23	UAR 23/U	Signal cable	
W-DAU16/A	FU2304	330	1	8	20awg	JB-UAR23	UAR 23/U	Signal cable	
W-DAU17/A	FU2305	330	1	8	20awg	JB-UAR23	UAR 23/U	Signal cable	
W-DAU18/A	FU2306	330	1	8	20awg	JB-UAR23	UAR 23/U	Signal cable	
W-TNU7/A	FU2307	330	1	8	20awg	JB-UAR23	UAR 23/U	Signal cable	
W-TNU8/A	FU2308	330	1	8	20awg	JB-UAR23	UAR 23/U	Signal cable	
			1	1	6mm²	UAR 23/U	Local Ground Network Point	Grounding	
*							JI-U-33	MEASURAMENT MANUAL PANEL	
*							JI-U-34	MEASURAMENT MANUAL PANEL	
*							JI-U-35	MEASURAMENT MANUAL PANEL	
*							JI-U-36	MEASURAMENT MANUAL PANEL	
*							JI-U-37	MEASURAMENT MANUAL PANEL	
*							JI-U-38	MEASURAMENT MANUAL PANEL	
*							DA-U-16	MEASURAMENT MANUAL PANEL	
*							DA-U-17	MEASURAMENT MANUAL PANEL	
*							DA-U-18	MEASURAMENT MANUAL PANEL	
*							TN-U-7	MEASURAMENT MANUAL PANEL	
*							TN-U-8	MEASURAMENT MANUAL PANEL	