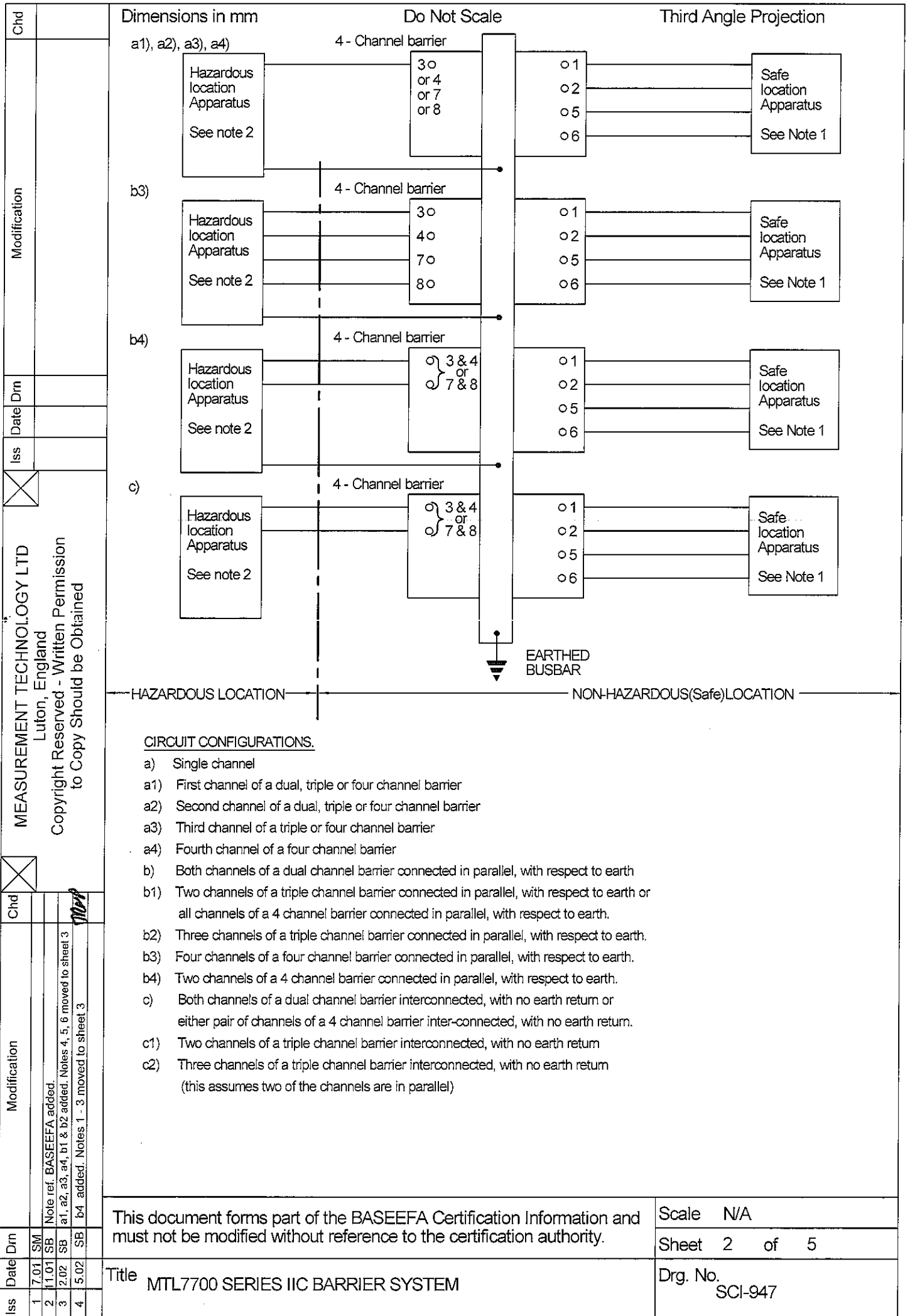


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Scale	N/A
Sheet	1 of 5
Drg. No.	SCI-947

Title **MTL7700 SERIES IIC BARRIER SYSTEM**



Chd					
Modification	MTL7741 to 45 added, other barriers moved to next page.				
Date	5.02	SB			
Iss	4				
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Chd					
Modification	Added MTL7715P, MTL7760 & MTL7765. and note ref BASEEFA. Added MTL7706, 7707 & 7758 and notes 4, 5 & 6. Moved MTL7764, 7765 & 7766 to sheet 4.				
Date	7.01	SM			
Iss	1				
Iss	2	11.01	SB		
Iss	3	2.02	SB		

Dimensions in mm Do Not Scale Third Angle Projection

Note 1
Safe Area Apparatus - unspecified except that it must not be supplied from nor contain under normal or abnormal conditions a source of potential with respect to earth in excess of 250V r.m.s or 250V d.c.

Note 2
Hazardous Area Apparatus - switches, thermocouples, platinum resistance thermometers (PRTs) and resistors. The PRTs and resistors must each have a surface area of between 20mm² and 10cm². All these devices must meet the requirements of clause 5.4 of EN50020:1994 and be installed in accordance with the requirements of clause 6 of EN50020:1994. They must also be housed in an enclosure providing a degree of protection of at least IP20. Such apparatus need not be certified or marked.

Note 3
Wiring to terminals of separate intrinsically - safe circuits must be achieved using separate cables or by separate circuits within Type A or Type B multicore cables (as defined in clause 5.3 of EN50039), subject to the following:-
a) The circuit is to be individually screened when contained within a Type A multicore cable.
b) The peak voltage of any circuit within a Type B multicore cable must not exceed 60V.

Note 4
The installation must comply with national requirements (e.g. in the UK must generally meet EN60079-14:1997).

Note 5
The marking should normally appear on or adjacent to the principal item of electrical apparatus in the system or at the interface between the intrinsically safe and non-intrinsically safe circuits.

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 Measurement Technology Ltd.

Note 6
The following cable parameters must not be exceeded. C in microfarads, L in millihenries, and L/R in microhenries per ohm. Where two values of inductance are shown in a column, the larger value (shown in parentheses) applies when the external circuit contains no lumped inductance greater than 10µH, ie: the Li of any attached apparatus is less than 10µH.

BARRIER	AC/DC	CIRCUIT CONFIG	IIC			IIB			IIA		
			C	L	L/R	C	L	L/R	C	L	L/R
MTL7706	+	a	0.083	3.05(4.2)	56	0.65	9.15(12.6)	210	2.15	24.4(33.6)	444
MTL7707	+	a1	0.083	3.05(4.2)	56	0.65	9.15(12.6)	210	2.15	24.4(33.6)	444
		a2	0.083	—	—	0.65	—	—	2.15	—	—
		b	0.083	3.05(4.2)	56	0.65	9.15(12.6)	210	2.15	24.4(33.6)	444
MTL7710	+,-	a	3.0	0.91	74	20	2.72	310	100	7.25	627
MTL7715	+,-	a	0.58	1.45	66	3.55	7.22	263	14	14	544
MTL7715P	+,-	a	0.58	0.33	28	3.55	0.99	140	14	2.64	280
MTL7722	+,-	a	0.165	1.45	45	1.14	7.22	180	4.2	14	373
MTL7728	+,-,ac	a	0.083	3.05(4.2)	56	0.65	9.15(12.6)	210	2.15	24.4(33.6)	444
MTL7728P	+,-	a	0.083	1.82(2.51)	44	0.65	5.46(7.53)	168	2.15	14.5(20.0)	354
MTL7741	+	b	2.86	96	742	20.0	365	1900	100	696	1900
MTL7742	+	b	2.86	96	742	20.0	365	1900	100	696	1900
MTL7743	+	b4	2.86	96	742	20.0	365	1900	100	696	1900
		b3	2.73	25	184	19.9	91	694	100	193	1323
MTL7744	+	b4	2.86	96	742	20.0	365	1900	100	696	1900
		b3	2.73	25	184	19.9	91	694	100	193	1323
MTL7745	+	b	2.86	96	742	20.0	365	1900	100	696	1900
MTL7755	ac	a1	100	0.46	145	1000	1.37	722	1000	3.66	1442
		a2	100	0.46	145	1000	1.37	722	1000	3.66	1442
		b	100	0.13	69	1000	0.39	206	1000	1.03	548
		c	40	0.41	73	1000	1.23	361	1000	3.28	721

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Scale N/A

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Title MTL7700 SERIES IIC BARRIER SYSTEM

Drg. No.
SCI-947

Chd	Modification	Drn	Date	Iss	Chd	Modification	Drn	Date	Iss
	MTL7756 to 7761P moved from sheet 3. MTL7778 added. MTL7788 to 96 moved to sheet 5.	SB	5.02	4		MEASUREMENT TECHNOLOGY LTD Luton, England Copyright Reserved - Written Permission to Copy Should be Obtained	SB		
	MTL7766P, 7767 & 7779 moved from sheet 3 and added note ref. BASEEFA. Added MTL7789. Moved MTL7764, 7765 & 7766 from sheet 3.	SB	7.01 11.01	1 2			SB		
		SB	2.02	3			SB		

Dimensions in mm

Do Not Scale

Third Angle Projection

BARRIER	AC/DC	CIRCUIT CONFIG	IIC			IIB			IIA		
			C	L	L/R	C	L	L/R	C	L	L/R
MTL7756	ac	a1	100	0.46	145	1000	1.37	722	1000	3.66	1442
		a2	100	0.46	145	1000	1.37	722	1000	3.66	1442
		a3	100	0.46	145	1000	1.37	722	1000	3.66	1442
		b1	100	0.13	69	1000	0.39	206	1000	1.03	548
		b2	100	0.06	44	1000	0.19	131	1000	0.49	349
		c1	40	0.41	73	1000	1.23	361	1000	3.28	721
MTL7760	ac	a1	3	0.91	74	20.2	2.72	310	100	7.25	627
		a2	3	0.91	74	20.2	2.72	310	100	7.25	627
		b	3	0.20	27	20.2	0.60	82	100	1.61	218
MTL7761	ac	a1	4.9	3.72	163	40	15	616	500	31	1299
		a2	4.9	3.72	163	40	15	616	500	31	1299
		b	4.9	0.91	62	40	2.72	258	500	7.2	522
MTL7761P	ac	a1	4.9	56	613	40	208	2382	500	419	2778
		a2	4.9	56	613	40	208	2382	500	419	2778
		b	4.9	14	236	40	55	870	500	116	1747
MTL7764	+, -	a1	1.41	240	1000	9	932	1000	36	1000	1000
		a2	1.41	240	1000	9	932	1000	36	1000	1000
		b	1.41	61	360	9	226	1398	36	452	1500
MTL7764	ac	a1	1.41	240	1000	9	932	1000	36	1000	1000
		a2	1.41	240	1000	9	932	1000	36	1000	1000
		b	1.41	61	360	9	226	1398	36	452	1500
MTL7765	ac	a1	0.58	1.45	66	3.55	7.22	263	14	14.42	544
		a2	0.58	1.45	66	3.55	7.22	263	14	14.42	544
		b	0.58	0.32	22	3.55	0.95	108	14	2.54	216
MTL7766	ac	a1	1.41	5.8	151	9	23	556	36	48	1174
		a2	1.41	5.8	151	9	23	556	36	48	1174
		b	1.41	1.47	58	9	4.4	234	36	11	481
MTL7766P	ac	a1	1.41	5.8	151	9	23	556	36	48	1174
		a2	1.41	5.8	151	9	23	556	36	48	1174
		b	1.41	1.47	58	9	4.4	234	36	11	481
MTL7767	+, -	a1	0.58	1.45	66	3.55	7.22	263	14	14	544
		a2	0.58	1.45	66	3.55	7.22	263	14	14	544
		b	0.58	0.32	22	3.55	0.95	108	14	2.54	216
MTL7778	ac*	a1	0.083	16	107	0.65	62	398	2.15	130	789
		a2	0.083	16	107	0.65	62	398	2.15	130	789
		b	0.083	3.05(4.2)	42	0.65	9.15(12.6)	158	2.15	24.4(33.6)	333

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Scale N/A
Sheet 4 of 5

Title MTL7700 SERIES IIC BARRIER SYSTEM

Dr. No. SCI-947

Iss	4	Date Dm	5.02 SB	Modification		Chd	
Iss		Date Dm		Modification		Chd	

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Dimensions in mm Do Not Scale Third Angle Projection

BARRIER	AC/DC	CIRCUIT CONFIG	IIC			IIB			IIA		
			C	L	L/R	C	L	L/R	C	L	L/R
MTL7779	+, -	a1	0.083	3.05(4.2)	56	0.65	9.15(12.6)	210	2.15	24.4(33.6)	444
		a2	0.083	3.05(4.2)	56	0.65	9.15(12.6)	210	2.15	24.4(33.6)	444
		b	Not permitted								
MTL7787	+, -	a1	0.083	3.05(4.2)	56	0.65	9.15(12.6)	210	2.15	24.4(33.6)	444
		a2	0.083	—	—	0.65	—	—	2.15	—	—
		b	0.083	3.05(4.2)	56	0.65	9.15(12.6)	210	2.15	24.4(33.6)	444
MTL7787P	+, -	a1	0.083	1.82(2.51)	44	0.65	5.46(7.53)	168	2.15	14.5(20.0)	354
		a2	0.083	—	—	0.65	—	—	2.15	—	—
		b	0.083	1.82(2.51)	44	0.65	5.46(7.53)	168	2.15	14.5(20.0)	354
MTL7788	+, -	a1	0.083	3.05(4.2)	56	0.65	9.15(12.6)	210	2.15	24.4(33.6)	444
		a2	3.0	0.91	74	20	2.72	310	100	7.25	627
		b	0.083	0.33	25	0.65	0.99	124	2.15	2.64	253
MTL7788R	+, -	a1	0.083	3.05(4.2)	56	0.65	9.15(12.6)	210	2.15	24.4(33.6)	444
		a2	3.0	0.91	74	20	2.72	310	100	7.25	627
		b	0.083	0.33	25	0.65	0.99	124	2.15	2.64	253
MTL7789	+, -	a1	0.083	16	106	0.65	63	393	2.15	133	781
		a2	0.083	—	—	0.65	—	—	2.15	—	—
		a3	0.083	16	106	0.65	63	393	2.15	133	781
		a4	0.083	—	—	0.65	—	—	2.15	—	—
		b3	0.083	3.05(4.2)	56	0.65	9.15(12.6)	210	2.15	24.4(33.6)	444
MTL7796	+, -	a1	0.1	4.91	64	0.77	20	239	2.6	40	505
		a2	0.22	13	136	1.41	51	501	5.5	108	1014
		b	0.1	1.94	34	0.77	8.5	136	2.6	16	282

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	Sheet	5 of 5
Title	MTL7700 SERIES IIC BARRIER SYSTEM	
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