



				Dimensions	s in mm		Do Not Scale	7	hird An	gle Proje	ection					
				Dimensions	S		20 Not Joulo	'	and All	910 1 10JC	.5.1011					
Modification				Note 1  MTL7700 Series Shunt Diode Barriers must be secured to a DIN 'T' section (35x27x7.5mm) mounting rail. Rails constructed of aluminium or aluminium-based alloys must not be used. The mounting rail must be provided with at least one grounding terminal (two are recommended) which should be situated at each end of the rail. These terminals are to be used for the intrinsic safety grounding and must be capable of accommodating conductors up to 4mm in cross-section (12 AWG).  Note 2  The intrinsic safety grounding system must be such that when installed the ground loop impedance (including the mounting rail) does not exceed 1.0Ω.  Note 3  The Non-Hazardous (Safe) Location or Division 2 equipment must not generate or use voltages (Um) in excess of 250V rms or dc with respect to earth.												
Ę				Note 4 The Hazar	rdous Location equipmen	t mav be ULL	isted devices suitable for the loca	tions whic	ch it is							
Date Drn				to be insta	alled and with correct Enti	ity parameters	or Simple Apparatus.									
				•	ole Apparatus consists on his drawing applies withou	•	then the entity parameter table o ature limitation.	n subseq	uent							
<u>s</u>	$\perp$			•	• •		es (TC's), Light Emitting Diodes (L without switches, then the maxin	,	it nowe	r						
X	7					•	us must not exceed the following	-	ar powe							
۵ ا	1															
OGY LT	  -  -	mission	70		Maximum barrier outpu	t power (Po)	Maximum ambient Temperature where simple apparatus is locat	(Ta)								
000	,   	n Per	taine		1.3 Watts		40°C									
MEASUREMENT TECHNOLOGY LTD	Luton, England	Copyright Reserved - Written Permission	to Copy Should be Obtained	with the Na local codes Note 6 The MTL7	ational Electrical Code (A s, as applicable.	NSI/NFPA 70) safety barriers	losure suitable for the application for installation in the United State are Associated Apparatus, and wowing locations:	es, or othe	er	an						
				ii) Class I,	azardous (Safe) Locations , Division 2, Groups A,B,C 4 Temperature code.		rdous Locations									
Modification	70,70	rewolded, amended.	See sheet 5.													
	Q	5 ame	sheet													
								Scale	N/A							
Drn	CMB	CMB	CMB	Certifying A	uthority: UL			Sheet	3	of	10					
Date	9.04	1 19	12.19	Title MTL 7	7700 SERIES BARRIE	R CONTROL	DRAWING	Drg. No								
<u>s</u>	- c	3			, , oo olineo banne	T. CONTINUI			SCI-9	991	0.5					
FOR	ıβb			FH9							CAD A4					

		Dimensions in mm	Do Not Scale	Т	hird An	gle Proje	ection						
oo			e with the barrier manufacturer's control dra de, ANSI/NFPA 70 for installation in the Unit	-									
Modification		* *	e parameters table must be used to determ is location apparatus. The following must be		-	,							
te Drn		Voc or Vt (Uo) ≤ Vmax (Ui) Isc or It (Io) ≤ Imax (Ii) Po ≤ Pi Ca (Co) ≥ Ccable + Ci La (Lo) ≥ Lcable + Li or La/Ra (Lo/Ro) ≥	⊵ Lcable/Rcable and La/Ra (Lo/Ro) ≥ Li/Ri										
GY LTD Is Date		Note 9 Capacitance and inductance of the field wiring from the intrinsically safe equipment to the associated apparatus shall be calculated and must be included in the system calculations as shown in the tables on the following pages. Cable capacitance, Ccable, plus intrinsically safe equipment capacitance, Ci must be less than the marked capacitance, Ca (or Co), shown on any associated apparatus used. The same applies for inductance (Lcable, Li and La or Lo, respectively).  Where the cable capacitance and inductance per foot are not known, the following values shall be used: Ccable = 60 pF/ft., Lcable = 0.2 µH/ft.											
ASUREMENT TECHNOLOGY LTD Luton, England Copyright Reserved - Written Permission	to Copy Should be Obtained	Note 10 Certain barriers are not permitted as ass Refer to entries with asterisks in the followant of the fitted in a Safe Area, the barriers of the followant of the fitted in a Safe Area, the barriers of the fitted in a Safe Area, the fitted in a S	sociated apparatus for Div 1 Groups A,B.	nt tempera	ature as	3							
MEASURE	to (	when used in Division 2.  NOTE 12 Warning - Substitution of components r	nay impair intrinsic safety or suitability for C	lass I, Div	vision 2								
		Ca (or Co) and La (or Lo) parameters of 50% of Ca (or Co) and La (or Lo) parame	I Li of the intrinsically safe apparatus excee the associated apparatus (excluding the ca eters are applicable and shall not be excee eater than 1μF for Groups C and/or D, and	ble), then ded.	1								
sation		WARNING: The following precautions must be taken Division 2 Hazardous locations:	n when MTL7700 Series Shunt Diode Barrie	ers are ins	stalled ir	า							
Modification e 12 reworded.	eet 5.	to be free of flammable vapors. ii) Plug in terminals on non-hazardous (	ved from the DIN rail unless power is off or Safe) side of the barriers as well as the bus eature, must not be inserted or removed un flammable vapors.	power te	rminal j								
n 18 Note 1		O 117 1 A 11 11 11		Scale	N/A								
ls Date Drn 1 9.04 CMB 2 10.14 SB 3 1.19 CMB	12.19	Certifying Authority: UL Title MTL7700 SERIES BARRIER C	ONTROL DRAWING	Sheet Drg. No	4 ). SCI-9	of 991	10						

	Dimensions in n	nm					Do No	ot Scal	e				Third A	Angle P	rojection
Modification															
Date Drn M	La/Ra or Lo/Ro (μΗ/Ω) AB/CE/DFG	56/210/444	56/210/444	-	49/196/393	*/119/236	1	*/107/213	74/310/627	66/263/544	28/140/280	45/180/373	56/210/444	44/168/354	
Δ 2	La or Lo (mH) AB/CE/DFG	4.2/12.6/33.6	4.2/12.6/33.6	_	3.7/12.6/29.7	*/5.103/10.206	1	*/4.4/8.8	0.91/2.72/7.25	1.45/7.22/14	0.33/0.99/2.64	1.45/7.22/14	4.2/12.6/33.6	2.57/7.53/20	
ASUREMENT TECHNOLOGY LTD Luton, England Copyright Reserved - Written Permission to Copy Should be Obtained	Ca or Co (μF) AB/CE/DFG	0.083/0.65/2.15	0.083/0.65/2.15	0.083/0.65/2.15	0.07/0.578/1.88	*/0.65/2.15	*/0.65/2.15	*/0.578/1.88	3.0/20/100	0.58/3.55/14	0.58/3.55/14.0	0.165/1.14/4.2	0.083/0.65/2.15	0.083/0.65/2.15	
MEASU	Po (W)	0.65	0.65		0.72	1.2	j	1.33	0.5	0.56	1.09	0.81	0.65	0.83	
	Ro (ohms)	300	300	diode	300	164	diode	164	50	100	51	150	300	239.6	
	Isc or Io (mA)	93	93	0	97.7	171	0	179	200	150	291	147	93	119	A/B
deleted.	Voc or Uo (V)	28	28	28	29.6	28	28	29.6	10	15	15	22	28	28	Groups
Modification 28 modules of table. ble.	OOZEO	В	2	c2	р	c1	c2	р	Ф	В	О	а	а	Т	ed for
Date Drn Modification 9.04 CMB 10.14 SB All "-" versions and 7728 modules deleted 1.19 CMB MTL7728P+ added to table. 12.19 CMB MTL7728- added to table.	BARRIER Model Terminals	MTL7706+ 3 & 4	MTL7707+ 3 & GND	MTL7707+ 4 & GND	MTL7707+ 3 & 4	MTL7707P+ 3 &GND	MTL7707P+ 4 & GND	MTL7707P+ 3 & 4	MTL7710+ 3 & 4	MTL7715+ 3 & 4	MTL7715P+ 3 & 4	MTL7722+ 3 & 4	MTL7728+/-/ac 3 & 4	MTL7728P+ 3 & 4	* Not permitted for Groups A/B
All "-". MTL7												Scale	N/A	\	
Date Drn 9.04 CMB 10.14 SB 1.19 CMB 12.19 CMB	Certifying Autho	rity: U	L									Sheet		of	10
BOB 186 1 9.04 2 10.14 3 1.19 4 12.19	Title MTL7700	SERIE	ES BA	RRIEI	R CON	NTROI	_ DRA	WING				Drg. N		I-991	CAD A4

A/B
Groups
ed for
* Not permitted for Groups A/B
of 10
CAD A4

		[	Dimen	nsions in	mm			I	Do Not	Scale			1	hird A	ngle Proj	ection
Modification										I						
Date Drn Moc			La/Ra or Lo/Ro	(µH/Ω) AB/CE/DFG	145/722/1442	69/206/548	44/131/349	26/77/206	26/77/206	10/30/81	74/308/617	35.6/142.2/284.4	160/616/1281	62/258/522	613/2382/2778	236/870/1747
<u>s</u>	ermission		La or Lo	(mH) AB/CE/DFG	0.46/1.37/3.66	0.13/0.39/1.03	0.06/0.19/0.49	0.07/0.20/0.54	0.07/0.20/0.54	0.02/0.05/0.14	0.91/2.72/7.25	0.2/1.0/1.8	3.65/14.6/29.2	0.91/2.72/7.2	54/208/419	13.5/52.6/105.2
MEASUREMENT TECHNOLOGY LTD	Luton, England Copyright Reserved - Written Permission to Copy Should be Obtained		Ca or Co	(μF) AB/CE/DFG	100/1000/1000	40/1000/1000	40/1000/1000	11.1/174/1000	11.1/174/1000	8.4/100/1000	3.0/20/100	3.0/20/100	4.9/40/500	0.31/1.78/7.6	4.9/40/500	0.31/1.78/7.6
ME	7		Ро	(w)	0.225	0.45	0.675	1.4	4.1	2.8	0.5	1.0	0.225	0.45	0.058	0.115
X			Ro	(swwo)	10	5	3.3	10	10	5	50	25	90	45	351.5	175.75
			Isc	or Io (mA)	300	009	006	750	750	1500	200	400	100	200	26	52
			Voc	on (S)	3	9	9	7.5	7.5	8.0	10	10	9	18	6	48
Modification	& 10. L7760.		O	OZŒŰ	Φ	Ŧ	Б	c1	c2	σ	q	σ	q	Ф	q	σ
Mod	See sheets 3, 4, 5, 6, 8, 9 & 10. Ca or Co amended for MTL7760 See sheet 5.		BARRIER	Model Terminals	MTL7756ac 3 & GND or 4 & GND or 7 & GND	MTL7756ac 3 & 4 or 4 & 7 or 3 & 7	MTL7756ac 3 & 4 & 7	MTL7758+/- 3 & GND	MTL7758+/- 4 & GND	MTL7758+/- 3 & 4	MTL7760ac 3 & GND or 4 & GND	MTL7760ac 3 & 4	MTL7761ac 3 & GND or 4 & GND	MTL7761ac 3 & 4	MTL7761Pac 3 & GND or 4 & GND	MTL7761Pac 3 & 4
	See s												Scale	N/A		
e Drn	9.04 CMB 10.14 SB 1.19 CMB 12.19 CMB	_		ng Autho	ority: UL								Sheet	7	of	10
ls Date	1 2 8 4	Tit	N	MTL770	0 SERIES	BARRIER	CONT	ΓROL	DRAW	ING			Drg. No	scl	-991	CAD A4

				imensio	ns in n	nm				Do No	t Scale	e			Thi	ird Angle	Projecti	on
Modification			]				ı	ı		Ι					1	Ι		1
Date Drn Modifi				La/Ra or Lo/Ro	(PI 1752) AB/CE/DFG	1000/1000/1000	360/1398/1500	997/1000/1000	360/1398/1500	66/263/544	31.6/126.4/252.8	149/556/1174	58/234/481	78/313/644	29/87/231	66/263/544	22/108/216	
<u>s</u>		nission		La or Lo	AB/CE/DFG	240/932/1000	61/226/452	240/932/1000	50.9/203/407	1.45/7.16/14.3	0.32/0.95/2.54	5.6/22.4/44.9	1,41/4,4/11	1,47/4,4/11	0.34/1.02/2.71	1.45/7.22/14	0.32/0.95/2.54	
UREMENT TECHNOLOGY LTD	Luton, England	Copyright Reserved - Written Permission to Copy Should be Obtained		Ca or Co	(Pl.) AB/CE/DFG	1.41/9/36	1.0/6.2/22.5	1.41/9/36	0.125/0.93/3.35	0.58/3.55/14.0	0.58/3.55/14.0	1.41/9/36	0.125/0.93/3.35	1.41/9/36	0.125/0.93/3.35	0.58/3.55/14	0.58/3.55/14	
MEASI	71	Ö		Po	(44)	0.036	0.072	0.036	0.072	0.56	1.12	0.24	0.48	0.471	0.942	0.56	1.125	
X				Ro (ohms)		1000	200	1000	200	100	20	150	75	76.4	38.2	100	50	_
				Isc or Io	(VIII)	12	24	12	24	150	300	80	160	157	314	150	300	A/B
		Pac.		Voc or Uo	(v)	12	13	12	24	15	15	12	24	12	24	15	15	Groups
Modification		7766		OOZ	ZEO	Q	ъ	۵	σ	q	σ	۵	σ	q	О	٩	σ	ed for
Modi	All "-" versions deleted.	La or Lo amended for MTL7766Pac. See sheet 5		BARRIER Model	Terminals	MTL7764+ 3 & GND or 4 & GND	MTL7764+ 3 & 4	MTL7764ac 3 & GND or 4 & GND	MTL7764ac 3 & 4	MTL7765ac 3 & GND or 4 & GND	MTL7765ac 3 & 4	MTL7766ac 3 & GND or 4 & GND	MTL7766ac 3 & 4	MTL7766Pac 3 & GND or 4 & GND	MTL7766Pac 3 & 4	MTL7767+ 3 & GND or 4 & GND	MTL7767+ 3 & 4	* Not permitted for Groups A/B
	۱۱۱۰ "-» االا	La or Lo am See sheet 5.												So	ale	N/A		
Drn	CMB SB A	CMB S	Се	rtifying <i>i</i>	Autho	rity: UL								-		8 0	f 1	10
	1 9.04 ( 2 10.14	1.19	Titl		L7700	SERIES	BARI	RIER CC	ONTRO	OL DRA	WING			Dr	g. No.	SCI-991		
FOR		<u> </u>	FH	9														CAD A4

			D	imen	sions in r	nm				Do	Not S	cale				Third An	gle Proje	ection
Modification																		
Date Drn				La/Ra or Lo/Ro	(μΗ/Ω) AB/CE/DFG	107/398/789	51.7/206/413	56/210/444	* /106/212	56/210/444	l	50/203/407	44/168/354	1	38.1/152/304.5			
<u>s</u>	ermission	per		La or Lo	(mH) AB/CE/DFG	16/62/130	3.9/15.7/31.4	4.2/12.6/33.6	* /4.01/7.9	4.2/12.6/33.6	1	3.99/12.6/31.9	2.51/7.53/20		2.40/7.53/19.2			
MEASUREMENT TECHNOLOGY LTD	Luton, England Coovright Reserved - Written Permission	to Copy Should be Obtained		Ca or Co	(µF) AB/CE/DFG	0.083/0.65/2.15	0.075 /0.609/1.98	0.083/0.65/2.15	* /0.627/2.05	0.083/0.65/2.15	0.083/0.65/2.15	0.070/0.578/1.88	0.083/0.65/2.15	0.083/0.65/2.15	0.0616/0.524/1.7			
ME	<b>7</b> 1		-	P <sub>0</sub>	( <u>%</u>	0.33	0.687	0.65	1.3	0.65	1	0.698	0.835		0.934			
X				Ro (chmc)	(SIIIIO)	009	300	300	150	300	epoip	300	234.6	diode	252.27			
				Isc	(mA)	47	95.1	93	188	93	0	94	119	0	122			
				Voc	S S	28	28.9	28	28.5	28	28	29.6	28	28	30.7			
Modification	7.		_	OC	DZŒΰ	۵	р	q	р	2	c2	р	5	c2	р			
Modi	CMB SB Some "-" versions deleted CMB See sheets 3, 4, 5, 7 & 8.	12.19 CMB See sheet 5.		BARRIER	Terminals	MTL7778ac 3 & GND or 4 & GND	MTL7778ac 3 & 4	MTL7779+ 3 & GND or 4 & GND	MTL7779+ 3 & 4	MTL7787+/- 3 & GND	MTL7787+/- 4 & GND	MTL7787+/- 3 & 4	MTL7787P+ 3 & GND	MTL7787P+ 4 & GND	MTL7787P+ 3 & 4			
	Soi See	IB See													Scale			
		Certifying Authority: UL  Title  MTI 7700 SERIES BARRIER CONTROL DRAWING												Shee Drg.		of	10	
ls Da	1 9 04 2 10 14 3 1 19				ITL7700	SERIES	S BAF	RRIER C	ONTR	OL DI	RAWIN	1G			5,9.	SCI-9	991	
FOR <sup>2</sup>	DR 186 FH9 CAD A4																	

			Dimensions in mm Do Not Scale											Third Angle Projection				
Modification																]		
Date Drn				La/Ra or Lo/Ro	(μΗ/Ω) AB/CE/DFG	56/210/444	74/310/627	25/124/253	106/393/781	I	50.18/200.7/401	100.37/393/781	64/239/505	136/501/1014	34.4/137/275.3			
<u>α</u>	ermission	pal		La or Lo	(mH) AB/CE/DFG	4.2/12.6/33.6	0.91/2.72/7.25	0.33/0.99/2.64	16/63/133	I	3.8/15.4/30.8	15.4/61.7/123.5	4.91/20/40	13/51/108	1.47/5.89/11.78			
ASUREMENT TECHNOLOGY LTD	Luton, England Convriaht Reserved - Written Permission	to Copy Should be Obtained		Ca or Co	(μF) AB/CE/DFG	0.083/0.65/2.15	3.0/20/100	0.083/0.65/2.15	0.083/0.65/2.15	0.083/0.65/2.15	0.07/0.587/1.88	0.07/0.587/1.88	0.1/0.77/2.6	0.22/1.41/5.5	0.094/0.73/2.42			
MEASI				Ро	( <u>%</u>	0.65	0.5	0.92	0.33	0	0.72	0.36	0.56	0.26	0.81			
	Τ			Ro (ohms)	(2)	300	50	42.85	009	diode	300	009	300	390	169.56			
				Isc	(mA)	93	200	294	46.5	0	96	48	87	51	138			
	d.			Voc	S S	28	10	28	28	28	29.6	29.6	26	20	26.6			
cation	delete			υC	ZĒΰ	2	23	σ	ح	ح		~	2	23	σ			
Modification	Some "-" versions and note deleted. See sheets 3, 4, 5, 7 & 8.	See sheet 5.		BARRIER	Terminals	MTL7788+ MTL7788R+ 3 & GND	MTL7788+ MTL7788R+ 4 & GND	MTL7788+ MTL7788R+ 3 & 4	MTL7789+ 3 & GND or 7 & GND	MTL7789+ 4 & GND or 8 & GND	MTL7789+ 3 & 4 & 7 & 8	MTL7789+ 3 & 4 or 7 & 8	MTL7796+/- 3 & GND	MTL7796+/- 4 & GND	MTL7796+/- 3 & 4			
rn 4B	is Sol	MB Se	Scale N/A Certifying Authority: UL Sheet 10 of 10												40			
Date Drn 9.04 CMB	10 14 SB 1 19 CMB	2.19 CN	Tit	le										Sheet Drg. N		UI	10	
	2 8		FH		MTL770	00 SERIE	S BARR	IER CON	NTROL	DRAWII	NG				SCI-9	91	CAD A4	