

How to select Part Numbers and Order

TSM - XXXXXX - X - X - X - X - X - X - MS
 1 2 3 4 5 6 7 8

1. Size of display***

(for example 4L20C - 4 Lines of 20 2" Characters)

	10 Char. Models	20 Char. Models	40 Char. Models	80 Char. Models
1 Line	X	1L20C	X	X
2 Lines	2L10C	2L20C	2L40C	2L80C
4 Lines	X	4L20C	4L40C	4L80C
8 Lines	X	8L20C	8L40C	8L80C

2. Type of LEDs

R Red
T Tricolor

3. Type of Controller

M Master
S Slave

4. Option card for Master or Network Interface for Slave

Master options -

E No card selected, RS232, RS422/485
& Ethernet port standard
C Mitsubishi CCLink
D DeviceNet
H DH+ and Remote I/O
M Modbus Plus
P Profibus

Slave options -

0 No card selected, RS232 and RS422/485 ports
D DeviceNet
E Ethernet
P Profibus

5-6. Type of enclosure & Housing Material

N-A NEMA 12 Aluminum Extrusion
X-X NEMA 4 Aluminum Extrusion
W-C NEMA 4X Powder Coated Cold Roll Steel
W-S NEMA 4X Stainless Steel

7. Outdoor and Sunlight Option

0 no selection
H for high bright outdoor use marquee

8. MS Style Connectors for Power & COMS (standard)

Marquee Size and Housing Compatibility Chart:

*** CALL for Custom Size Above 8 Lines

	N-A Nema 12 Aluminum Extrusion	X-X Nema 4 Aluminum Extrusion	W-C Nema 4X Powder Coated Cold Roll Steel	W-S Nema 4X Stainless Steel
2L10C	✓	✓	✗	✓
1L20C	✓	✓	✗	✓
2L20C	✓	✓	✓	✓
4L20C	✓	✓	✓	✓
8L20C	✗	✗	✓	✓
2L40C	✓	✓	✓	✓
4L40C	✓	✓	✓	✓
8L40C	✗	✗	✓	✓
2L80C	✗	✗	✓	✓
4L80C	✗	✗	✓	✓
8L80C	✗	✗	✓	✓

Tough SmartMarquee™ Part Numbers and Specifications

How to select Part Numbers and Order

TSM - $\frac{XXXXX}{1} - \frac{X}{2} - \frac{X}{3} - \frac{X}{4} - \frac{X}{5} - \frac{X}{6} - \frac{X-MS}{7 \quad 8}$

**"X-X" in positions 5 and 6
for Aluminum Extrusion**



**"W-S" in positions 5 and 6
for Welded Housing**



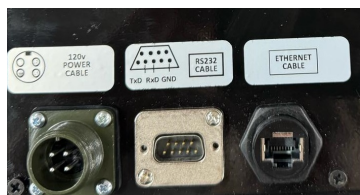
"W" Welded Housing Dimension and Weights

Model	Dimension (WxHxD)	Character Height	Characters Per Line	# of Lines	Weight
2L10C	20" X 6.25" X 4.25"	2 3/4"	10/5	2/1	20 lbs.
1L20C	40" X 4" X 4.25"	2"	20	1	30 lbs.
2L20C	40" X 11.5" X 4.25"	2 3/4"	20/10	2/1	47 lbs.
4L20C	40" X 16.3" X 4.25"	2 3/4"/6"/8"/8N	20/10/6/5/10	4/2/1/1/1	65 lbs.
8L20C	40" X 25.9" X 4.25"	2 3/4"/6"/8"/8N	20/10/6/5/10	4/2/1/1/1	101 lbs.
2L40C	72" X 11.5" X 4.25"	2 3/4"	40/20	2/1	81 lbs.
4L40C	76" X 16.3" X 4.25"	2 3/4"/6"/8"/8N	40/20/13/10/20	4/2/1/1/1	112 lbs.
8L40C	76" X 25.9" X 4.25"	2 3/4"/6"/8"/8N	40/20/13/10/20	4/2/1/1/1	178 lbs.
2L80C	150" X 11.5" X 4.25"	2 3/4"	80/40	2/1	189 lbs.
4L80C	150" X 16.3" X 4.25"	2 3/4"/6"/8"/8N	80/40/26/20/40	4/2/1/1/1	250 lbs.

"X" Aluminum Extrusion Housing Dimension and Weights

Model	Dimension (WxHxD)	LED Type	Character Height	Characters Per Line	# of Lines	Weight
2L20C	37.05" x 7.28" x 4.18"	Red/Tricolor	2 3/4"	20/10	2/1	18 lbs.
4L20C	37.05" x 12.08" x 4.18"	Red/Tricolor	2 3/4"/6"/8"/8N	20/10/6/5	4/2/1/1	34 lbs.
2L40C	73.25" x 7.28" x 4.18"	Red/Tricolor	2 3/4"	40/20	2/1	34 lbs.
4L40C	73.25" x 12.08" x 4.18"	Red/Tricolor	2 3/4"/6"/8"	40/20/13/10	4/2/1/1	70 lbs.

MS - CONNECTORS



4-pin MIL-5015 receptacle Male Pins - 120 VAC

9-pin Serial DB-9 Male Receptacle (RS232)

Ethernet CAT 5 - MS Connector

Tough SmartMarquee™

Part Numbers and Specifications

General Specifications for all Marquees

NEMA RATING:	NEMA 12, NEMA 4X Class I, DIV II
Power Source:	115 VAC (102-132) 47-63 Hz 230 VAC (194-250) 47-63 Hz
Vibration:	5 - 55 Hz 5G for 2 hours in the X, Y and Z axis
Shock:	20G for under 12ms in the X, Y and Z axis
Agency Approvals:	UL, CUL, CE pending
Operating Temp:	-20 to 60 C Ambient
Storage Temp: -	-40 to 95 C Ambient
Humidity:	10 to 95% RH, Non-condensing
Electrical Interference:	NEMA ICS 2-230 Showering Arc Test
Electrical Tolerance:	ANSI C37.90a-1974 (SWC) Surge With-Stand Capability Test

Table for # of lines
and # of characters
(N=Narrow Characters)

Model	Char. Size	# of Char.	# of Lines
2L20C	2"	20	2
2L20C	4"	10	1
4L20C	2"	20	4
4L20C	4"	10	2
4L20C	6"	6	1
4L20C	8"	5	1
4L20C	8" N	10	1
8L20C	2"	20	8
8L20C	4"	10	4
8L20C	6"	6	2
8L20C	8"	5	2
8L20C	8" N	10	2
2L40C	2"	40	2
2L40C	4"	20	1
4L40C	2"	40	4
4L40C	4"	20	2
4L40C	6"	13	1
4L40C	8"	10	1
4L40C	8" N	20	1
8L40C	2"	40	8
8L40C	4"	20	4
8L40C	6"	13	2
8L40C	8"	10	2
8L40C	8" N	20	2
2L80C	2"	80	2
2L80C	4"	40	1
4L80C	2"	80	4
4L80C	4"	40	2
4L80C	6"	20	1
4L80C	8"	20	1
4L80C	8" N	40	1

UTICOR
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Narrow
Character

**How far do you
need to see ?**

2" char. - readable from 100 ft
4" char. - readable from 200 ft
6" char. - readable from 300 ft
8" char. - readable from 400 ft
8" Narrow char. - readable from 400 ft

Tough SmartMarquee Features

Blinking: A character, word, or message flashes at user programmed rate. Flashing messages attract more attention.

Scrolling Message: Marquees can scroll message from left to right, and from bottom to top.

The table shows all standard sizes and maximum number of lines and characters for each character height supported.

You can display characters of different heights in the same line.