Display Production Data & Machine Operation Time

```
TGT 132    ACTUAL 124
Average Time 131 Sec
```

Display Alarm Conditions

```
Motor Temp 62C
Maintenance Alert
```

#1 Manufacturer of Marquees since 1968, 16 Different Sizes 1L10C-4L40C, Both Indoor & Outdoor Models

- International Character Set
- 1/3 Power Consumption, 1/3 the Weight, and 1/3 the Cost as compared to others
- Full Brightness to 60°C ambient, not 35°C like others
- Matched LEDs to last more than 10 years
- Scrolling, Blinking and Stationary Messages
- Widest Selection of Marquee Sizes, NEMA12 Indoor, NEMA 4 Outdoor, and Super Bright Sunlight Readable

*Exclusive: Super Bright Sunlight Readable Tri-Color, 12,000 NITS

SUGGESTED CALL TO ACTIONS

DOWNLOAD

FEATURES & SPECIFICATIONS

PDF

EZMarquee is Designed and Built Industry Tough

NEMA 12 (Indoors) and NEMA 4/4X (Outdoors) Waterproof, designed to withstand plant floor environments and communicate to PLCs

The EZMarquee is an industrial marquee which costs almost the same as a commercial marquee. The commercial marquees can not tolerate the environment of a typical plant, that has wide voltage fluctuations, high temperatures, high shock and vibration, exposure to dust and water and most importantly, electrical noise, typical in a plant.

Team of Engineers

EZMarquees were designed by an engineering team with an average of 23 years of experience per engineer, in designing industrial products.

EXPERIENCED DESIGN TEAM

EZAutomation used HALT (Highly Accelerated Life Testing) for identifying component & interconnect issues. HALT tests new designs for temperature & mechanical shock. HASS (Highly Accelerated Stress Screening) is used to ensure continued industrial quality in production.

HALT/HASS TESTING

HALT-HASS Chamber

Like every other product designed by EZAutomation, EZMarquees went through extensive electrical tests such as: NEMA ICS 2-230, showering arc, ANSI C37.90a-1974, & Surge.

ELECTRICAL NOISE TESTING

Noise Test Fixture

EZMarquee products have all appropriate regulatory approvals, such as UL, cUL, and CE for European market.

REGULATORY TESTS

Burn-in Chamber

During production, EZMarquees get a 24-hour burn-in to eliminate premature mortality.

BURN-IN CHAMBER

The result is an Industrial Marquee capable of withstanding a harsh industrial environment and communicating to your PLC over an RS422/485 port or DeviceNet , Profibus, or Ethernet.

PERFECT FIT FOR AN INDUSTRIAL SETTING

EZ Marquee

EZMarquee™

Industrial LED Message Displays at Incredible Prices & Great Connecivity to PLCs/Networks

360°

Scrolling, Blinking and Stationary Messages

Store and trigger up to 200 messages in Free EZMarquee Software

EZMarquee Communication setup menu for Ethernet I/P, DeviceNet, Profibus, Modbus RTU, Modbus TCP I/P protocols

What is EZMarquee?

EZMarquees offer a wide variety of visual displays that provide the most practical and affordable communication solution. In today's industrial climate, communication needs to be instantaneous, interactive and proactive, allowing Employees and Management to make timely decisions based on up-to-the-minute facts of the manufacturing process. Simply put the EZMarquee keeps the Plant Personnel informed.

What does it have?

- 2" - 8" Red, Tricolor or Sulight readable characters
- International Character Set
- From single line 10 characters to 4 lines of 40 characters
- String a network of 16 marquees
- EZ ASCII interface to PLC's and PC Based Controls
- Devicenet, Profibus and Ethernet options
- Indoor NEMA 12 or Outdoor NEMA 4/4X models

Where does it make sense?

EZMarquees are an excellent way to keep workers in touch with the manufacturing process via the following:
- Monitor plant productivity
- Communicate alarm and safety messages
- Provide continuous report on factory conditions
- Display machine diagnostics
- Outdoor sunlight readable models great for parking garages, truck load/weigh stations and car washes

At These Prices, All Production Machines Should Have a Marquee!

Display Production Data and Alarms

Display production target data and actual data results on the EZMarquee (EZMR-1L10C) as shown to the right

T:320A:304

CONVEYOR 2 JAMMED

Alert Alarm Conditions

Display critical alarm conditions on the EZMarquee (EZMR-1L20C) as shown to the left

EZ Marquee

TEMPERATURE: 220F
HIGH NORMAL LOW

Communicate Machine/ Process Status Up to 400 Feet Away

Display machine and process status on the EZMarquee (EZMT-2L20C) as shown to the right

EZMarquee Will Pay for Itself in Less than 3 Months!

Increase Productivity and Savings

Most production machines or manufacturing lines produce anywhere from $500 to $50,000 of revenue per hour. Assuming 50% of the revenue to be material costs and the rest to be labor and overhead, you can quickly determine that even 1% increase in productivity means savings of at least $2.50 per hour which translates to at least $100 per week savings. You can calculate the rest!

So, if you are a Plant Engineer or Plant Manager, ask your Original Equipment Manufacturer to install a marquee on your machine.

"For a 6 week ROI, we should have an EZMarquee on every machine!"

HALT CERTIFIED HASS

30 DAY GUARANTEE MONEY BACK

THANKS FOR USING ABC

Get ahead of the competition by offering a bright LED marquee on your machine

Offer a Marquee with your Machine

If you are an OEM, you can get a jump start on your competition by offering a 2", 20 character marquee for less than $500. Your machine will have the modern look of the 21st century and will be noticed (up to 100 feet away) by everyone at your customer's facility.

EZMARQUEE ON EVERY MACHINE

Innovate'n'Save™

You No Longer Have to be GM to Afford Marquees or "ANDONS" in your Plant

Innovate'n'Save™

ANDONs Improve Plant Productivity

ANDON is actually a Japanese word for marquees. Most Japanese plants in the early eighties recognized that in order to achieve their productivity gain targets, it was vital to communicate important production information, whether it relates to production rates, downtime and uptime data, alarm messages or simply displaying motivational or employee recognition messages. They wanted to have these messages displayed for visibility over hundreds of feet.

Americans and Europeans Begin to Follow Suit

American and European plants, wanting to achieve the same productivity gains, started to use marquees extensively in the late eighties and early nineties. However, the price of these ANDONs or Marquees remain out of reach for most smaller plants. The prices range from $5,000 to $50,000 depending on the number and size of characters, and typically you had to buy 50 plus marquees to get these prices.
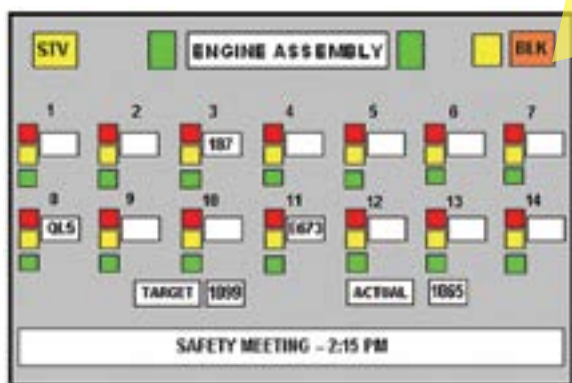
TRADITIONAL 14 STATION ANDON COSTING ABOUT $20,000 IN SINGLE UNIT QUANTITIES

EZMarquee Makes Visual Productivity Tools Affordable for Everyone!

Introduction of the EZMarquee with the established Uticor reliability, now makes these important productivity tools available to smaller companies even in single quantities. Not only can a small company now afford to put marquees on it's plant floor, EZAutomation delivers on it's promise of "Twice the Features, at Less than Half the Cost!" A typical ANDON is not very flexible and essentially a custom product with letters engraved all over the display. If you need to make a change once you

ordered your custom ANDON, guess what? YOU'RE STUCK! Not with EZMarquee. Even at half the cost, EZMarquee is completely flexible. Every character is programmable the way you want it.

1/3RD THE COST AND YET COMPLETELY PROGRAMMABLE!

Traditional ANDON showing status of 7 stations, target production and actual production, 40 character message line

EZMarquee (EZMT-4L40C)
4 Line 40 Character TRI-COLOR LED
Every single character is programmable

Lead time:
6-8 weeks

Custom ANDON
$10,000

Lead time: Same day shipping or maximum 3 days

EZMarquee
$3,299

You'll Get Outstanding Quality, Features, Price...

Mixed Character Heights on the Same Line

EZMarquee is capable of displaying mixed character sizes on the same line! Other marquees limit you to use just one character size per line, which means you cannot use 2", 4", 6" or 8" character sizes on the same line.

Here is an Example!   *Innovate'n'Save™*

Say we have a 2 Line, 20 Character per line marquee.
It can display either 2 lines of 20 2" characters, or 1 line of 10 4" characters.

The message you want to display is:

Temp. Zone 1: 454

And you want to see the temperature "454" 200 feet away, using 4" characters. With competitors' marquees you either scroll your message or are forced to get a much bigger marquee at more than double the cost.

Not with EZMarquee!

Since you can mix character heights, you can achieve your objective by displaying the message like this:

This allows Temperature "454" to be visible 200 feet away and still have a 20 character 2" Marquee.

Scroll and Blink Your Messages!

With EZMarquee, messages displayed can be Stationary, Scrolling or Blinking based on the embedded codes in an ASCII string. Left-scroll messages feature "smooth scrolling", that is, letters move one LED at a time. Each portion of a letter will illuminate every dot in that row when it scrolls across the display. Upward-scrolling messages actually do not scroll at all. Rather, they "wipe on" to the display in an upward fashion. The first section of message lines appear, then the display pauses, clears, and displays the next section of text.

EZMarquee's non-scrolling messages can contain blinking characters, whereas scrolled messages cannot have blinking characters. The time interval for 'on' and 'off' states of a blinking message can also be controlled.

...and Performance From the EZMarquee Family!

Display readings:
"gh Temp.   086"
"am Pressure   48.3"

"et d'urgence"
"e de chargement"

"COLOR LEDS"

"G KÜHLSYSTEM 1"

"TANK #1: 345 GALLONS"

"same line"

"ALERT"

International Character Set

Take advantage of EZMarquee's International character set to display your messages in multiple international languages. This option is switch selectable to allow message display in U.S. English, French, Danish, Swedish, German, Cyrillic or Japanese Kana!

	AMERICA	CYRILLIC	GERMANY	ENGLAND	DENMARK	SWEDEN	FRANCE	KANA
#	#			£	Ü			セ
$	$		§		ÖÄ	É		ロ
@	@				ÉÄ	à		SPACE
A	A							゜ア
B	B							┌
C	C							」
D	D							丶
E	E							、
F	F							ヲ
G	G							ヲア
H	H							イ
I	I							ウ
J	J							ェ
K	K							ォ
L	L							ャ
M	M							ュ
N	N							ョ
O	O							ッ
P	P							ー
Q	Q							ア
R	R							イ
S	S							ウ
T	T							エ
U	U							オ
V	V							カ
W	W							キ
X	X							ク
Y	Y							ケ
Z	Z							コ
[	[	Э	Ä		Æ		°	サ
\	\	Ю	Ö	Ø	Å	ç		シ
]	]	Я	Ü		Ä	§		ス
^	^							

		CYRILLIC					FRANCE	KANA
–	–	~						ソ
'	'					é		タ
a	a	А						チ
b	b	Б						ツ
c	c	В						テ
d	d	Г						ト
e	e	Д						ナ
f	f	Е						ニ
g	g	Ж						ヌ
h	h	З						ネ
i	i	И						ノ
j	j	Й						ハ
k	k	К						ヒ
l	l	Л						フ
m	m	М						ヘ
n	n	Н						ホ
o	o	О						マ
p	p	П						ミ
q	q	Р						ム
r	r	С						メ
s	s	Т						モ
t	t	У						ヤ
u	u	Ф						ユ
v	v	Х						ヨ
w	w	Ц						ラ
x	x	Ч						リ
y	y	Ш						ル
z	z	Щ						レ
{	{	Ъ						ロ
|	|	Ы						ワ
}	}	Ь						ン
"	"	Э						゛

EZ Marquee

EZMarquee is EZ to Connect to your PLC/Network

All you need is ASCII out

Connect to your DL06 PLC

Connect RS232 ASCII port 2 of DL06 to RS232 port of EZMarquee.

For networking multiple marquees, configure port 2 as RS422 and connect to RS422/485 of EZMarquee.

Use PRINTV function to initiate ASCII Commands to trigger relevant messages.
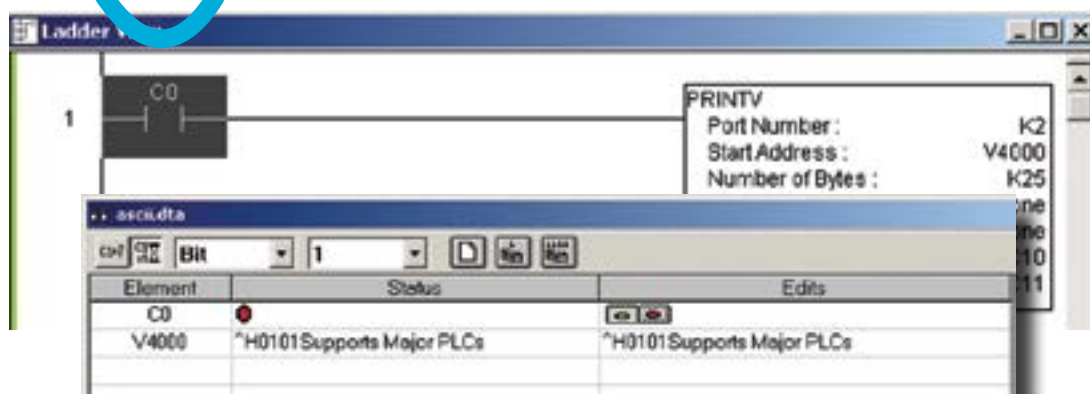
Connect to your MicroLogix or ControlLogix

Use AWT ASCII Write with:
SLC 5/03 OS301, OS302
SLC 5/04
SLC 5/05
MicroLogix Series
Compact & ControlLogix

Connect MicroLogix to RS232 port of EZMarquee.

Ethernet IP

Send ASCII strings over Ethernet IP or Modbus TCP/IP

EZMarquee is EZ to Connect to your PLC/Network

All you need is ASCII out

Connect to your GE Versamax Micro

Connect GE Versamax Micro to RS232 port of EZMarquee.

Connect to your Mitsubishi FX

Connect to Mitsubishi FX to RS232 port of EZMarquee with RS (FNC 80) instruction.
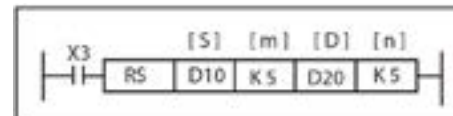
Connect to your Siemens S7

Connect Siemens S7 to RS232 port of EZMarquee with XMT instruction.
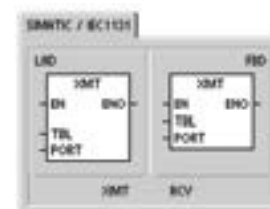
EZ Marquee

FREE String Generator Software
Makes it EZ to Configure Your EZMarquee

Most PLCs have a fairly simple mechanism to generate an ASCII string, but we made it even EZier.

You can download FREE software from www.EZAutomation.net to configure EZMarquee, preview messages and generate ASCII strings which can be simply copied and pasted into the PLC ladder logic.

FREE
DOWNLOAD FROM
EZAutomation.net

Innovate'n'Save™

EZ TO GENERATE ASCII STRINGS

NO COURSE
EZ SOFTWARE
REQUIRED

1 **Configure EZMarquee to set up communication parameters and address if in a network of marquees.**

2 **Type in your message along with it's attributes like character size, color, and effects like scrolling or blinking. Preview the message to edit any changes.**

3 **Copy the ASCII string and paste to the appropriate line in your ladder logic.**

See what your message will look like instantly
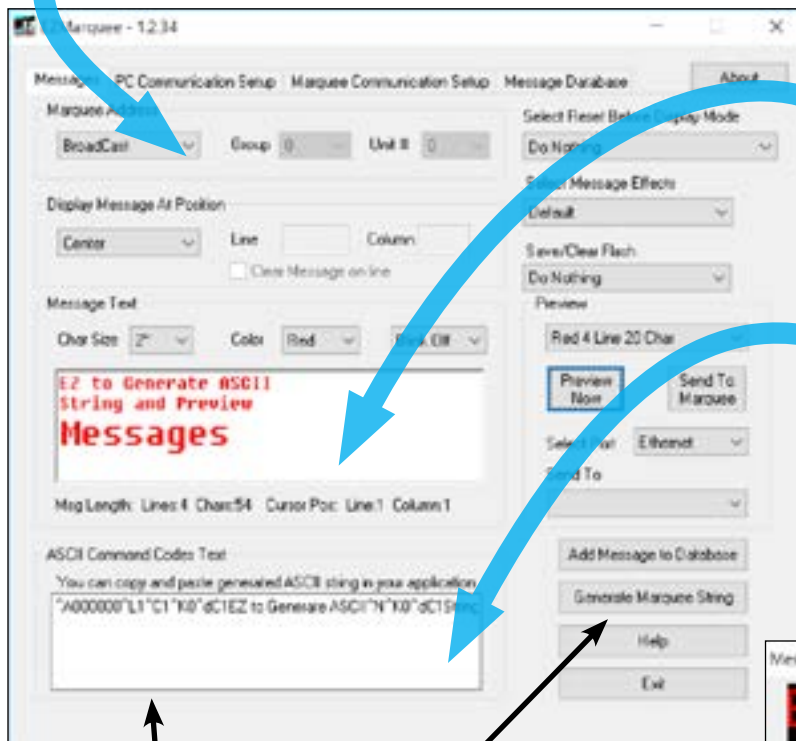
We make it EZ to generate ASCII Strings

EZMarquee is *Even EZier* to Use with EZPLC

EZPLC has a "send Marquee Message" instruction that allows messages to be easily programmed and stored in the EZPLC.

NO need to generate ASCII Strings, it's AUTOMATIC!

EZPLC has an RS422/485 port and an Ethernet port that can be connected to the corresponding port on the EZMarquee.

In addition, message programming and storage is much EZier as EZPLC has been designed from ground up to easily communicate with marquees.

1 Use EZPLC's "Send to Marquee" instruction to initiate communication with EZMarquee.

2 Configure your message's source tag and status tag.
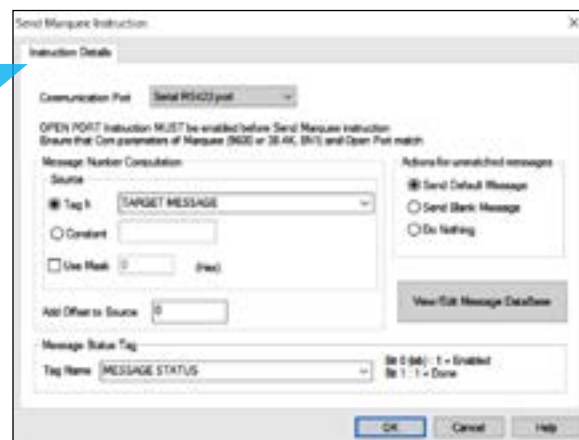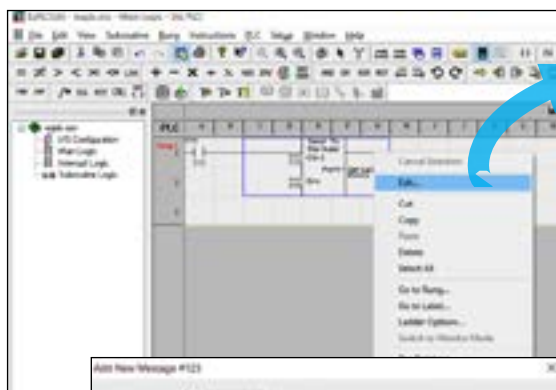
3 Control your message attributes without ever having to worry about ASCII format

Type in your message along with it's attributes like character size, color, and effects like scrolling or blinking. Preview the message to edit any changes.

Better Readablity at Lower Prices
Full 5x7 pixel has better readability as compared to truncated 4x5 pixel

EZ Marquees use full 5x7 pixel characters. Many of our competitors reduce their cost by using a 4x5 pixel character. For example, they might portray a 20x200 pixel display to be a 4 line 40 character marquee. Since you need a minimum of 1 pixel for spacing between characters, this pixel matrix can only have 3 lines of 32 characters. EZ Marquees' 4 line 40 character display has a pixel matrix of 32x240, 60% more LEDs, which gives you the best readability in the market.

5x7 pixel　　　　**4x5 pixel**

7 px　　5 px

5 px　　4 px
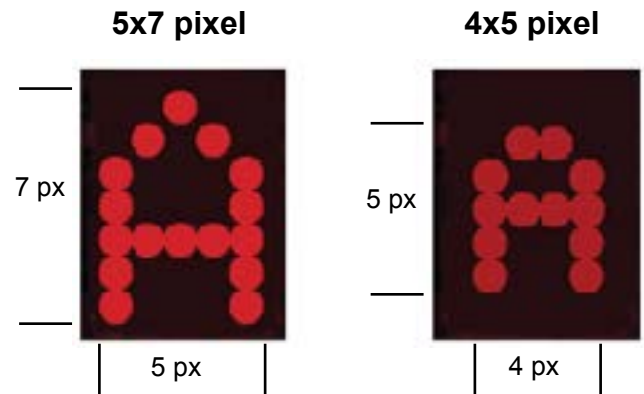
Incredible Price Point of $20 per 2" Character

EZMarquee is an industrial marquee which costs almost the same as a commercial marquee. The commercial marquees can not tolerate the environment of a typical plant, that has wide voltage fluctuations, high temperatures, high shock and vibration, exposure to dust and water and most importantly, electrical noise, typical in a plant. EZ Marquees are available starting at $379 whereas our competitors marquees costs $1500 - $2000.

Most of our EZ Marquees costs $20 per 5x7 pixel for 2" RED LED character, as compared to $100 per character. In addition these marquees have built-in RS422/485 port for networking and interface to industrial controls in the plant. Further, they can be connected to DeviceNet at an incredibly low price of $99, Ethernet for $99 and $139 for Profibus. Thus every production machine, either large or small, can benefit from the use of EZ Marquees.

2L20 Char.
$879

2" Character

7 px

5 px

INCREDIBLE PRICE POINT
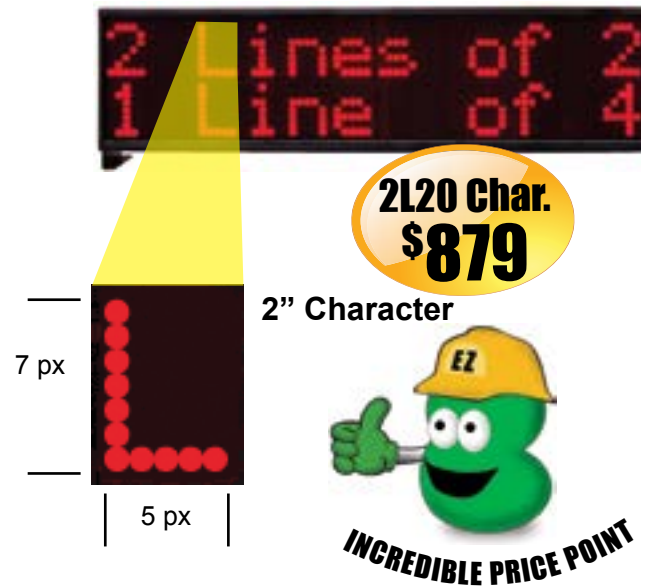
Last Message Stored in Flash Memory
Last Message sent is saved in Non Volatile Flash memory.
Upon Power Cycle the Marquee displays the saved Message

Even though the EZMarquee was designed to be a Slave marquee simply displaying the message being sent to it by a master, we have had a number of requests from our customers to add this feature. So, here it is.

Innovate'n'Save™

EZMarquee is Light Weight and Energy Efficient

Half the Weight, 1/3ʳᵈ of the Power Consumption

Innovate'n'Save™

EZMarquee was designed from the ground up to be SENSIBLE. When designing a marquee, one of the biggest challenges is to manage the power. Even though each LED may need only 10 mA of steady state current or 80-100 mA of peak current, the number of LEDs in even a small marquee is quite large.

For example, a 2 line 20 character tri-color sign has 1920 Red and 1920 Green LEDs and could theoretically draw a steady state current of 3840 x 10 mA or 38 amps, even though not all LEDs will be "on" at the same time. However, you can expect a current of 25 amps.

Most competitive marquees use rather inefficient power supplies and would thus use approximately 200 watts. That is a lot of power which results in a significant increase in internal temperature causing them to design **Thermal Overloads** or sometimes even **Fans** to keep the marquee cool. AB's Inview or Adaptive marquees for example are rated at 55° C but have an automatic **dimdown** at 55° C and an automatic shutdown at 70° C.

Not so with EZMarquee! With AVG's innovation and vertical integration strength, we have designed the EZMarquee to consume 1/3rd of typical power and have used a very efficient power switching system (Patent Pending) without sacrificing the LED luminous intensity. This innovative and efficient design automatically results in reducing the weight of EZMarquee, typically half of competitor's.

RESULT:
NO OVER HEATING
NO THERMAL SHUTDOWN
Full operation up to 60° C Ambient!

Power Consumption & Weight Comparison
2 Lines of 2" Tri-Color, 20 Characters per line

Feature	EZAutomation EZMarquee EZMT-2L20C	Allen-Bradley InView 2706-P42C	Adaptive Alpha 4120C
Power Consumption	55 watts	180 watts	180 watts
Weight	15 lbs	28 lbs	28 lbs

Our competitor's marquee is rated at 55° C Ambient, but dims at 55° C and shuts down at 70° C

Refer to page 133 of AB's "Inview Marquee Message Display" Publication 2706-UM016C-EN-P - May 2004

EZMarquee Maintains Uniform Brightness Over Life! HOW?

The luminous intensity of an LED depends upon the current going through it. It is also a known fact that the luminous intensity degrades over a period of time. If the current flowing through each one of the 3840 LEDs in the competitor's marquee shown to the right varies even as much as 10% and the luminous intensity differs even as much as 20%, the result would be a sign that will look great when first installed but would need replacement within a few years because some of the LEDs would be dimmer than others or simply burnt out.

In order to avoid this dilemma and have the marquee look as good as when first installed, (remember Uticor's reputation in marquees is simply legendary) EZAutomation marquees accomplish this by:
1. Using Matched Luminous Intensity LEDs
2. Carefully controlling the current through each LED
3. Reduce switching current losses to almost nothing
4. Use very efficient, 95% plus, switching power supplies
5. Perform a 24-hour burn-in test under power to weed out marginal LEDs

Innovate'n'Save™

Uticor/EZMarquee after 10 Years

Uniform Brightness Even After 10 Years

Competitor's Marquee after 10 Years

Please Forgive Me I am Aging!
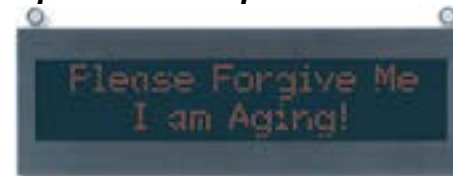
LED Luminous Intensity Aging Curve

Operational Time
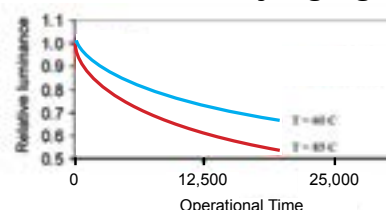
EZMarquee when Combined with EZPLC, Makes a Terrific Stand-Alone System to Display Process Conditions

EZMarquee, just like other marquees mentioned in this section, by itself is a slave device. It displays whatever information is sent to it by a master which could be either a PLC, a PC, an Embedded Controller or EZ iMarquee. This information can be sent over a serial connection like RS232/422/485 in ASCII format, or Ethernet or DeviceNet or Profibus. It does not store any messages either unlike EZ iMarquee. Many applications have the need to trigger preprogrammed messages or display the contents of a scaled process variable. For example, take a 4-20 mA reading from a pressure transmitter and display digital equivalent. Or you may simply want to display production count and rate at the end of a production line without having to go to a PLC and deal with writing ladder logic for it.

Since the EZMarquee can be very easily integrated with our EZPLC and this almost FREE PLC has a special marquee port, you can add the power of a very powerful PLC for as little as $130.00.

"Provides functionality of multi-thousand dollar systems for just $130 more!"

EZMarquee/EZPLC Combination for any process display/control

Here are some examples of EZMarquee/EZPLC Combinations

1. **Counter Indicator/Controller**

2. **Analog Process Display and Control**

3. **Message Database for up to 10,000 messages**

4. **Production/Rate Counter**

Use any digital/analog transducer(s) with an EZMarquee/EZPLC Combination

Counter Indicator / Controller

A production counter with Good Parts, Bad Parts, Uptime, Downtime, and Production rate and Visible to 100 Feet!

Let's examine the complete system cost for making a counter display with our EZPLC/EZMarquee combination along with a 24VDC power supply and two proximity sensors. The proximity sensors are for generating inputs for good part and bad part count, which feed a signal to EZPLC. Our EZPLC generates an ASCII string for EZMarquee through its built-in marquee instruction set and is sent over RS232/485 communication port.

2 Proximity
Sensors $20

24V DC Power
Supply for
PLC and Prox
Sensors

EZMarquee

EZPLC with one
Module

WOW!
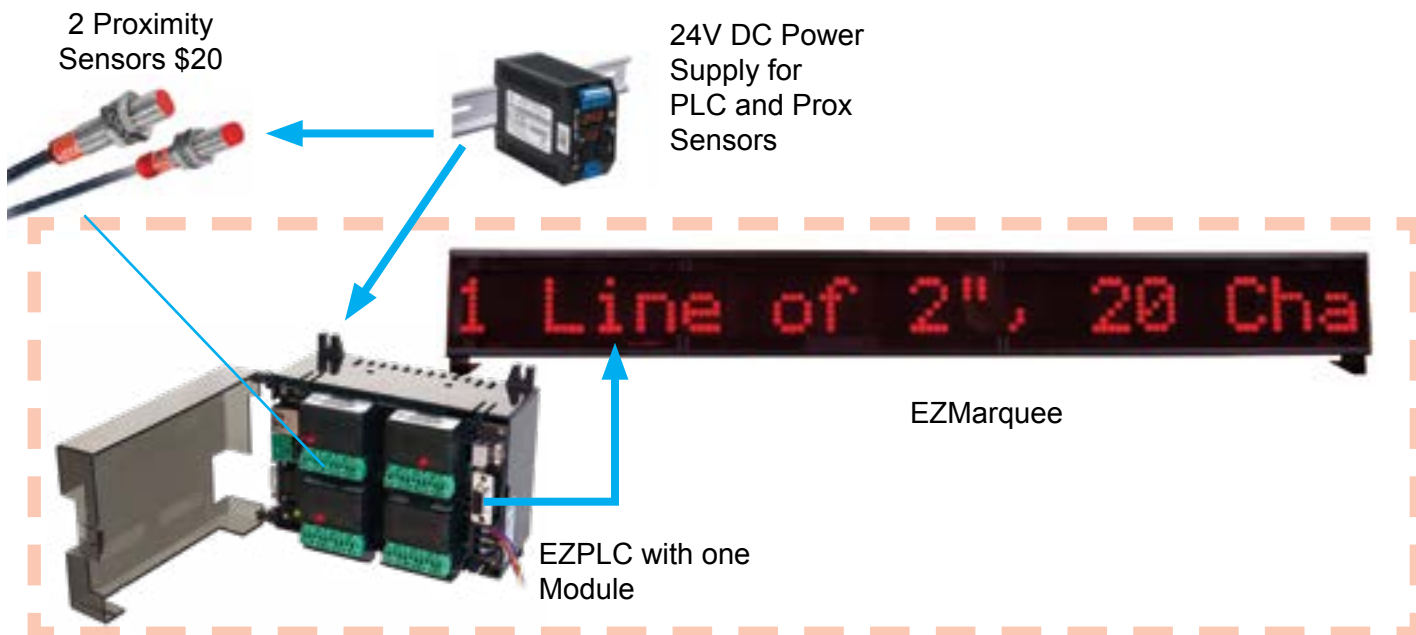
I LOVE PRODUCTIVITY

So, you have a Terrific Line Productivity Monitor for just $876 system cost!!

Expand with Ease!

Want the message triggers to come over DeviceNet, Profibus or Ethernet?
Want to trigger alarms? It's easy! Just get another EZI/O Relay Out module (EZIO-4RLO) to EZPLC (32I/O Capacity) and you get 4 AC/DC Relay outs to trigger alarms and sirens

Analog Process Display and Control

Monitor 8 Analog Process Variables, Display on a Tri-color Marquee and Turn 4 Alarms ON

Let's read 4-20 mA current signals from up to 8 different temperature/pressure/flow gauges, scale the readings, display on a 2" RED LED marquee, and activate up to 4 relay outputs for your alarms and sirens when your process readings exceed programmed limits!

The following stand alone system lets you take 4-20mA current inputs from up to 8 different analog signals. All these sensors will feed input signal to EZPLC which is connected to EZMarquee via RS232/485 communication port. EZPLC can be used to scale all the inputs and display them on 2" RED LED marquee and can also turn Relay outputs to trigger alarms/ sirens etc.

For $776 you are able to take input feed from up to 8 Analog devices (pressure transducer, LVDT etc), where you can display your process variables on a 2" EZMarquee via RS232/422/428. You also get 4 Relay outputs (AC/DC) to trigger sirens/alarms when your process variables go over your set points!

NOW THAT IS INCREDIBLE

Various Temp/Pressure Sensors

24V DC Power Supply for Sensors

EZMarquee

1Line 10Ch
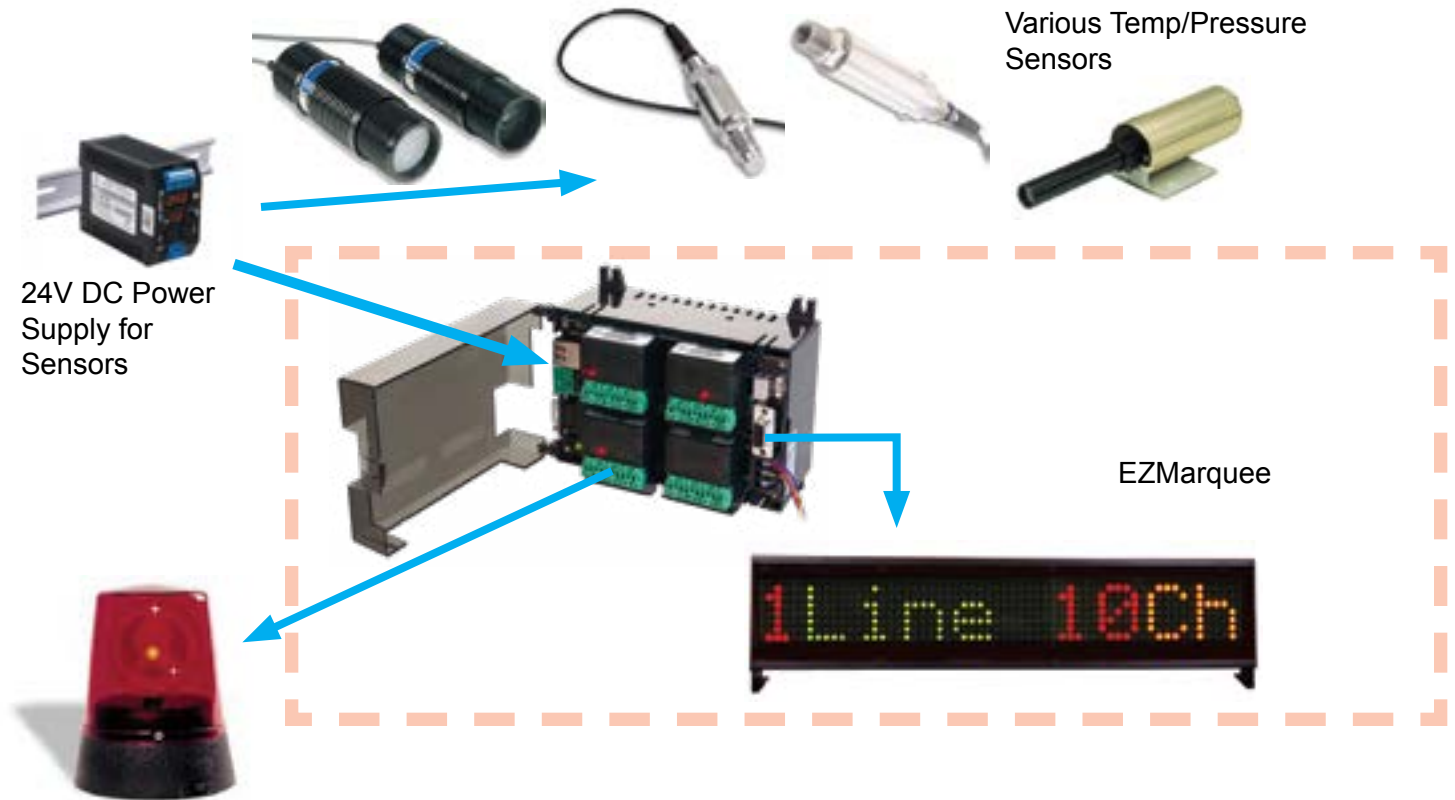
Expand with Ease!

Need to add Thermocouple inputs? Just add
EZIOP-4THIE module for up to 4 K Type thermocouples for temperature readout and control.

Switch Settings and Connections

NEMA 12 gasketed cover plate

Grommet for Power Cable

Grommet for Communications

Power Cable

Comm. Cable

EZMarquee's back cover with 2 grommets for power and communications

RS422/485 Port
Used to send ASCII instructions to other devices
RD-
RD+
SD+
SD-

110/220VAC 50-60Hz Power Input

Under Protective Cover

RS232 Port
GND
TXD
RXD

Ethernet Port
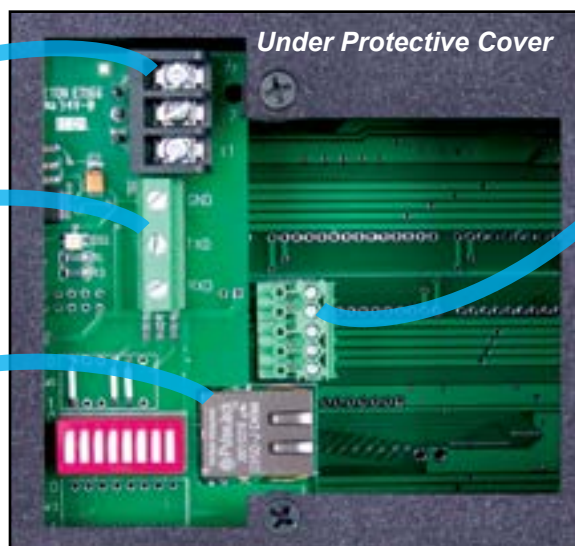
Unit Selector

Switches			Unit Number
5	4	3	
0	0	0	1
0	0	1	2
0	1	0	3
0	1	1	4
1	0	0	5
1	0	1	6
1	1	0	7
1	1	1	8

Baud Rate

Switch 1	Baud
0 =	9600
1 =	38.4K

Character Set

Switches			Char. Set
8	7	6	
0	0	0	U.S.
0	0	1	Cyrillic
0	1	0	French
0	1	1	German
1	0	0	English
1	0	1	Danish
1	1	0	Swedish
1	1	1	Kana

Group Selector

Switch 2	Group #
0 =	1
1 =	2

Open = OFF = 0
Closed = ON = 1

EZ Marquee

EZMarquee™ Choosing the Right Model

How to Select the right EZMarquee for your application requirements

1. Determine how many lines of data are required to be displayed all at once (1, 2 or 4 Lines Available)

2. Determine how many characters across are needed to be displayed all at once. (10, 20, or 40 characters across)

3. How far do you need to view the marquee message (100, 200, 300, or 400 ft away)? Note this will determine how many lines of data and characters can be displayed at one time depending on the marquee size selected. *See Table 1 for size selection reference to the right.*

4. Determine the Communication Method from the PLC, Network, SCADA or PC to the EZMarquee. Options are
    » **Serial (RS232/422/485) ASCII or Modbus RTU,**
    » **Ethernet (AB Ethernet I/P, Modbus TCP/ IP, Generic TCP/IP),**
    » **DeviceNet,**
    » **Profibus**

5. Select the right marquee for the Application Environment:
    » **Indoor Use Only (NEMA 12)**
    » **Outdoor Use (NEMA 4/4X)**
    » **Sunlight Readable LED Requirement**

How to select Part Numbers and Order ?

$$\underset{12}{\text{EZM}\underline{\text{XX}}} - \underset{3}{\underline{\text{XXXXX}}} - \underset{4}{\underline{\text{X}}} - \underset{5}{\underline{\text{XXX}}}$$

1. "R" for RED only
   "T" for TRICOLOR (RED, Green, Yellow)
2. "Blank" for Standard Brightness (1750 Nits)
   "H" for Highbright, Sunlight Readable (8000 Nits) (Note Available with Red Only LEDs)
3. Size of Display (# of lines, and Characters across)
   For Example (4L20C - 4 Lines of 20 Characters (2"))
4. Communication Protocol:
       Blank - RS232 and RS422/485 Serial Only
       "E" - Ethernet & Serial Protocols
       "D" - DeviceNet
       "P" - Profibus
5. Type of enclosure (Environmental Rating)
       "Blank" for Aluminium Nema 12,
       "Out" for Aluminum Nema 4/4X Outdoor Enclosure

Marquee Size Selection & Viewing Distance
Different Sizes for Different Applications

2" characters - readable from 100 feet
4" characters - readable from 200 feet
6" characters - readable from 300 feet
8" characters - readable from 400 feet
8" Narrow characters - readable from 400 feet

Display Capacity
(number of characters shown at one time)

Unit	Char. Size	# of Characters per Line
1L10C	2"	1 line of 10
2L10C	2"	2 lines of 10
2L10C	4"	1 line of 5
1L20C	2"	1 line of 20
1L40C	2"	1 line of 40
2L20C	2"	2 lines of 20
2L20C	4"	1 line of 10
2L40C	2"	2 lines of 40
2L40C	4"	1 line of 20
4L20C	2"	4 lines of 20
4L20C	4"	2 lines of 10
4L20C	6"	1 line of 6
4L20C	8"	1 line of 5
4L20C	8"N	1 line of 10
4L40C	2"	4 lines of 40
4L40C	4"	2 lines of 20
4L40C	6"	1 line of 13
4L40C	8"	1 line of 10
4L40C	8" N	1 line of 20

Table 1 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.

How far do you need to communicate?

1L20C

1L refers to one one line or "row" that equals 20 characters (each 2" high).

20C refers to 20 characters, all of which are 2" high.

4L20C
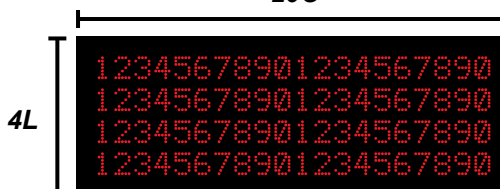
EZAutomation's EZMarquee are available in several sizes. The smallest size is called the 1L10C as shown in the chart on the left. The other sizes are multiples of the smallest size, such as 1L20C (shown above) 2L40C (shown below), etc.

2L40C
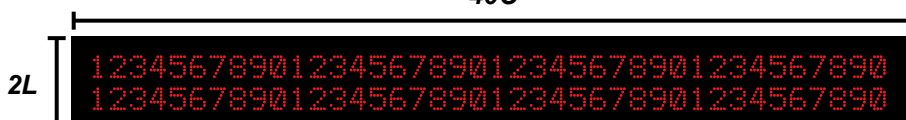
EZMarquee™

EZMarquee for Sunlight and Outdoor Applications

NEMA 4X Wash-down Enclosure and High-bright Sunlight Readable LEDs

EZMarquees are available with NEMA 4X wash-down enclosures suitable for Outdoor applications. In addition, the RED LED models are also available with very High-bright LEDs for Sunlight readability. Car washes, Parking Garages, Truck stops for weighing load, Quarries and Mines typically need both of these features. See page 5-20 for additional information.

Indoor & Outdoor High-bright Sunlight Readable LEDs

EZAutomation offers its RED marquees in "H" models that have very high bright intensity LEDs (8000 nits) that come in both Indoor NEMA12 or Outdoor NEMA 4/4X housings. These marquees are suitable for indoor applications that may be exposed to direct sunlight, such as inside Buses, Railways, or displaying advertising messages behind windows. The outdoor models are ideal for applications that are not only exposed to direct sunlight, but extreme weater conditions including rain, snow, etc. See page 5-28 for additional information

EZ Marquee

EZMarquee Indoor Features & Benefits

1/3rd the Weight, 1/3rd the Power Consumption
EZAutomation and its sister division Utior have been the #1 U.S. Supplier of LED message displays since 1985 to monitor, display and improve plant productivity and operation. The EZMarquee is the latest offering in this line of products. Its unique design allowed it cut down power consumption by 2/3rd and in the process reduced its weight also by 2/3rds. Reduced weight allows it to be mounted a lot easier.

1/3rd the Power Consumption allowing Marquee to be operational at 60°C ambient
Most all other Marquees from our competitions limit thier operation to 35°C. In fact AB/Rockwell's Inview line would shut itself down if the ambient got over 35°C and due to high power consumption inside the marquee cabinet, the inside temperature would rise by 20°C. Inview had a temperature detector at 55°C to shut it down before it got burnt down and catch fire. Not so with EZMarquee, 1/3rd power consumption allows it be fully functional at 60°C.

**Note: Inview has been discontinued by AB/Rockwell. In fact they no longer offer any Marquees.

1/3rd the Cost, just $20 per Character
Along with 1/3rd the weight, 1/3rd the Power Consumption, came 1/3rd the cost. It is Made in America, but its unique, exceptionally innovative design allows it to be sold at 1/3rd the price of Rockwell, Adaptive, Red Lion and others. For ball park price you can generally assume $20 per 2" Character. A 2" character is visible/readable from 100 ft. away. 4" character from 200 ft, and 8" character from 400 ft.

Wide Variety of 1 Line 10 Character to 4 Line 40 Character
EZMarquee has 16 different models from 1 Line 10 Character (2") to 4 Line 40 Character, both Red or Tri-color.

NEMA 12 (Indoors)
EZAutomation offers Indoorss (NEMA12) models. Delivery is still off the shelf or 1 week.

Uticor Division Marquees
Our sister division Uticor makes the most rugged Indoor and outdoor all metal marquees, including staineless steel models. You can call Uticor at 563-359-7501

Uniform Brightness over Life
All LEDs age, that is they lose thier brightness over a period of time. EZAutomation uses matched LEDs for each marquee so that when the LEDs age, they will age uniformly. You can always tell if a marquee you are looking at is an EZAutomation or Uticor Marquee. When LEDs are not matched, it would start to fadeout in different section of the marquee, so some letters would be brighter than others. With EZAutomation, your Marquee will look the same, read the same even 10 years after installation as all LEDs in the marquee have lost their luminous intensity uniformly.

100,000 Hour Lifetime
EZMarquee LEDs lasts at least 100,000 hours, giving our cutomers a marquee with long, useful life. Our marquees last twice as long as others.

Scrolling, Blinking, Stationary Messages
All EZMarquees have the option of displaying messages that are stationary, scrolling or blinking.

Internal Storage of 200 messages
All EZMarquees have an internal non-volatile flash memory that can store up to 200 messages.

Connectivity
All EZMarquees can communicate to EtherNet/IP, Modbus TCP/IP, Profibus, DeviceNet, Modbus RTU, all serial protocols of all PLCs and EZ protcol. Here, the PLC generates the message string to be sent to EZMarquee.

Free String Generator Software
We provide a free string generating software that converts standard English mesage to an ASCII character string that can be uploadded to the PLC and triggered based on the PLC events. This message is then displayed on the EZMarquee.

Mixed Character heights on a single line
EZMarquees have a unique feature of allowing mixed charcter heights on a single line allowing the

marquee to, for example have a 2" character along with an 8" character on the same line to make it the most effecient LED message display in the market. The reason you may want to have mixed height characters in the same line would be have part of the message, for example, temperature reading visible up to 400 ft while the rest is visible only to 100 ft.

International Character Set
EZMarquees can display messages in many languages as you can choose from an international character set.

EZ Connectivity to PLCs, SCADA, and Plant Network PCs over EtherNet/IP, Modbus RTU & TCP/IP, Profibus, DeviceNet and generic Ethernet TCP/IP

Video ▶

Automation Direct PLCs

Allen-Bradley PLCs

AB AC Drives

Productivity 2000/3000

Siemens PLCs
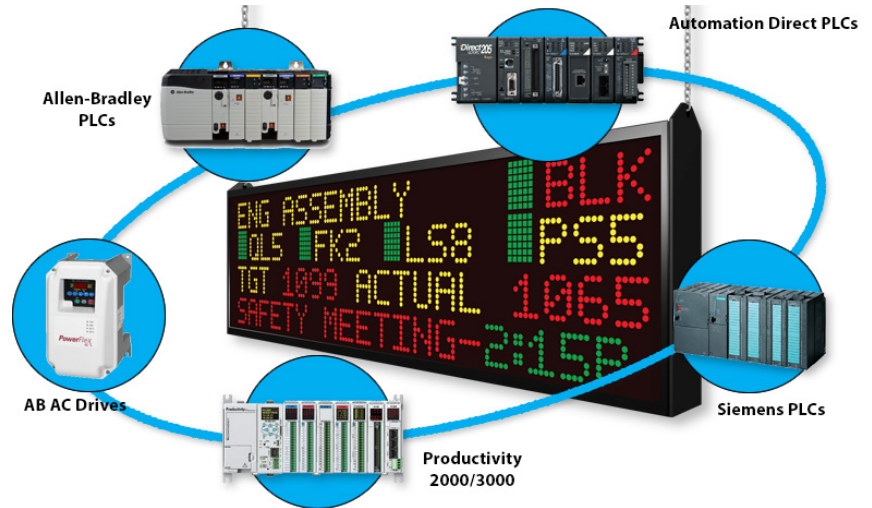
FREE String Generator Software

EZ Marquee comes with Free String Generator Software that makes it very EZ to program messages into it. Since the EZ Marquee is a slave marquee that displays messages sent in ASCII format, it is necessary to convert messages written in any language into an ASCII string. For English, we offer a Free software that performs this function literally in seconds. Preview messages and generate ASCII strings which can be simply copied and pasted into the PLC ladder logic or in Visual Basic scripting to interface with SCADA packages. This software is also extremely useful when connecting the EZ Marquee simply to your PC.

1 Configure EZMarquee to set up communication parameters and address if in a network of marquees.

Video ▶

2 Type in your message along with it's attributes like character size, color, and effects like scrolling or blinking. Preview the message to edit any changes.

3 Copy the ASCII string and paste to the appropriate line in your ladder logic.

See what your message will look like instantly
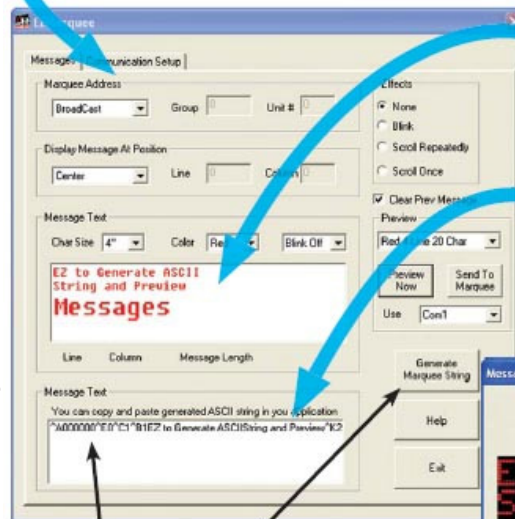
We make it EZ to generate ASCII Strings

Lightweight and Energy Efficient

EZ Marquee was designed from the ground up to be SENSIBLE. When designing a marquee, one of the biggest challenges is to manage the power. Even though each LED may need only 10 mA of steady state current or 80-100 mA of peak current, the number of LEDs in even a small marquee is quite large.

Most competitive marquees use rather inefficient power supplies and would thus use approximately 200 watts. That is a lot of power which results in a significant increase in internal temperature causing them to design Thermal Overloads or sometimes even Fans to keep the marquee cool. AB's Inview or Adaptive marquees for example are rated at 55° C inside its cabinet but dims at 35° C ambient and has an automatic shutdown at 40° C ambient.

Not so with EZ Marquee! With AVG's innovation and vertical integration strength, we have designed the EZMarquee to consume 1/3rd of typical power and have used a very efficient power switching system without sacrificing the LED luminous intensity. This innovative and efficient design automatically results in reducing the weight of EZ Marquee, typically by half to 2/3rd of the competitors.

RESULT:
NO OVER HEATING
NO THERMAL SHUTDOWN
Full operation up to 60° C Ambient!

Power Consumption & Weight Comparison
2 Lines of 2" Tri-Color, 20 Characters per line

Feature	EZAutomation EZMarquee EZMT-2L20C	Allen-Bradley InView 2706-P42C	Adaptive Alpha 4120C
Power Consumption	55 watts	180 watts	180 watts
Weight	15 lbs	28 lbs	28 lbs

Our competitor's marquee is rated at 55° C inside its cabinet or 35° C ambient, but dims at 35° C ambient and shuts down at 40° C ambient

Video ▶

EZMarquee - 1 Line 10 Characters (Outdoor)

1 Line 10 Characters - NEMA 4X

The 1 Line 10 Char EZMarquee can hold up to a maximum of 10 characters (2") per line and features 1 line of RED/Tri-Color LEDs. EZMarquees are enclosed in NEMA 4X extruded aluminum housing with NEMA ICS 2-230 level of electrical noise immunity.

All 1 Line 10 Character models are capable of communicating over RS232 and RS422/485 along with different models for Ethernet, DeviceNet and Profibus connectivity.

Characteristics:

Character Height:	2"
Characters per Line:	10
Number of Lines:	1
Visibility:	100'

1 Line 10 Characters feature:

- 1 line of 10 characters max
- Pre-matched LEDs
- 24 Hour Burn-In tested
- International Character Set
- Hang Mounting
- NEMA 4/4X Outdoor Housing
- NEMA ICS 2-230
- 110/220 VAC Power Input
- Surge Protection
- 100,000+ Hours Rated Life

See the different communication interface options available in the charts below

RED Outdoor

Model Number	Interface
EZMR-1L10C-OUT	RS232 and RS422/485 only
EZMR-1L10C-E-OUT	Ethernet included
EZMR-1L10C-D-OUT	DeviceNet included
EZMR-1L10C-P-OUT	Profibus included

RED Outdoor Highbright

Model Number	Interface
EZMRH-1L10C-OUT	RS232 and RS422/485 only
EZMRH-1L10C-E-OUT	Ethernet included
EZMRH-1L10C-D-OUT	DeviceNet included
EZMRH-1L10C-P-OUT	Profibus included

TRI color Outdoor

Model Number	Interface
EZMT-1L10C-OUT	RS232 and RS422/485 only
EZMT-1L10C-E-OUT	Ethernet included
EZMT-1L10C-D-OUT	DeviceNet included
EZMT-1L10C-P-OUT	Profibus included

1 Line 10 Characters Dimensions

2.750 [69.85]
4.187 [106.35]
4.781 [121.43]
1.750 [44.45]
Ø0.201 [Ø5.11]

18.868 [479.25]
18.451 [468.67]
18.036 [458.12]

MOUNTING HOLE CENTERS

EZMarquee 1 Line 10 Character and 2 Line 10 Character Selection Guide and Specifications (Outdoor)

EZ Marquee Outdoor Model Specifications			
Part Number	EZMR-1L10C-OUT EZMR-1L10C-E-OUT EZMR-1L10C-D-OUT EZMR-1L10C-P-OUT EZMRH-1L10C-OUT EZMRH-1L10C-E-OUT EZMRH-1L10C-D-OUT EZMRH-1L10C-P-OUT	EZMT-1L10C-OUT EZMT-1L10C-E-OUT EZMT-1L10C-D-OUT EZMT-1L10C-P-OUT	EZMR-2L10C-OUT EZMR-2L10C-E-OUT EZMR-2L10C-D-OUT EZMR-2L10C-P-OUT EZMRH-2L10C-OUT EZMRH-2L10C-E-OUT EZMRH-2L10C-D-OUT EZMRH-2L10C-P-OUT	EZMT-2L10C-OUT EZMT-2L10C-E-OUT EZMT-2L10C-D-OUT EZMT-2L10C-P-OUT
Display Type for Indoor	RED LED	TRI-Color LED	RED LED	TRI-Color LED
Display Type for "H"	RED Sunlight Readable 8000 nits		RED Sunlight Readable 8000 nits	
Specification	1 Line of 10 Char (2")		2 Lines of 10 Char (2")	
Max. Viewable Distance	100 Feet with 2" Characters		200 Feet with 4" Characters	
Power Consumption	8 watts	14 watts	15 watts	28 watts
Agency Approvals	UL, CUL, CE, pending			
Enclosure	NEMA 4/4X (Outdoor rated)			
Operating Temperature	-20° to 60° C Ambient			
Storage Temperature	-40° to 95° C Ambient			
Humidity	10% to 95% RH, Non-Condensing			
Input Power	110/220 VAC, 47-63Hz			
Electrical Interference	NEMA ICS 2-230 Showering Arc Test			
Electrical Tolerance	ANSI C37.90a-1974 (SWC) Surge With-Stand Capability Test			
Vibration	5 - 55 Hz 2G for 2 hours in the X, Y, and Z axis			
Shock	10G for under 12ms in the X, Y, and Z axis			
Serial Communications	Port 1 RS232; Port 2 RS422/485			
External Dimensions	18.9" x 4.8" x 2.8" (479.25 x 121.43 x 69.85mm)		18.9" x 6.2" x 2.8" (479.25 x 156.13 x 69.85mm)	
Weight	2.8 lbs	3 lbs	5 lbs	5.2 lbs

EZMarquee - 1 Line 20 Characters (Outdoor)

1 Line 20 Characters - NEMA 4X

The 1 Line 20 Char EZMarquee can hold up to a maximum of 20 characters (2") per line and features 1 line of RED/Tri-Color LEDs. EZMarquees are enclosed in NEMA 4X extruded aluminum housing with NEMA ICS 2-230 level of electrical noise immunity.

All 1 Line 20 Character models are capable of communicating over RS232 and RS422/485 along with different models for Ethernet, DeviceNet and Profibus connectivity.

Characteristics:

Character Height:	2"
Characters per Line:	20
Number of Lines:	1
Visibility:	100'

1 Line 20 Characters feature:

- 1 line of 10 characters max
- Pre-matched LEDs
- 24 Hour Burn-In tested
- International Character Set
- Hang Mounting
- NEMA 4/4X Outdoor Housing
- NEMA ICS 2-230
- 110/220 VAC Power Input
- Surge Protection
- 100,000+ Hours Rated Life

See the different communication interface options available in the charts below

RED Outdoor

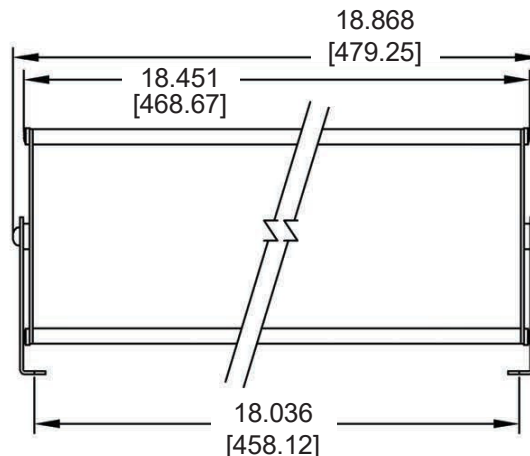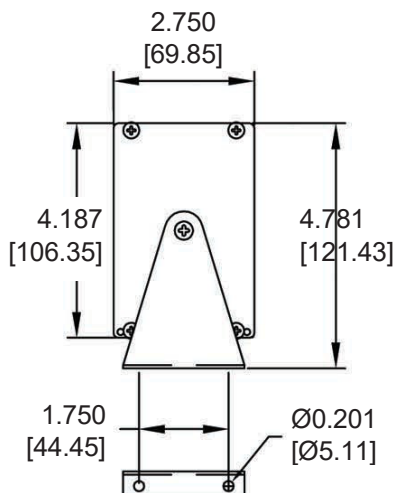| Model Number	Interface
EZMR-1L20C-OUT	RS232 and RS422/485 only
EZMR-1L20C-E-OUT	Ethernet included
EZMR-1L20C-D-OUT	DeviceNet included
EZMR-1L20C-P-OUT	Profibus included

TRI color Outdoor

Model Number	Interface
EZMT-1L20C-OUT	RS232 and RS422/485 only
EZMT-1L20C-E-OUT	Ethernet included
EZMT-1L20C-D-OUT	DeviceNet included
EZMT-1L20C-P-OUT	Profibus included

RED Outdoor Highbright

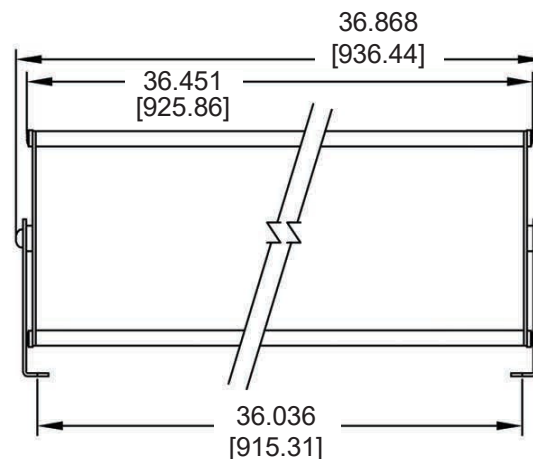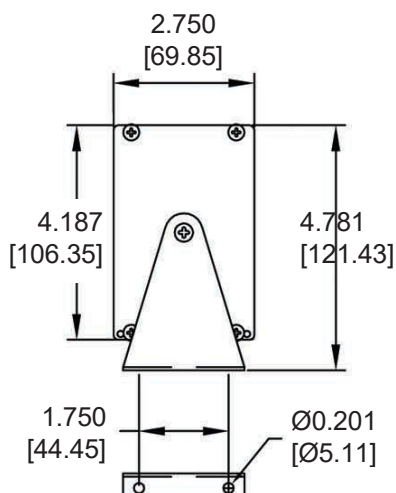| Model Number	Interface
EZMRH-1L20C-OUT	RS232 and RS422/485 only
EZMRH-1L20C-E-OUT	Ethernet included
EZMRH-1L20C-D-OUT	DeviceNet included
EZMRH-1L20C-P-OUT	Profibus included

1 Line 20 Characters Dimensions

2.750 [69.85]

4.187 [106.35]

4.781 [121.43]

1.750 [44.45]

Ø0.201 [Ø5.11]

36.868 [936.44]

36.451 [925.86]

36.036 [915.31]

MOUNTING HOLE CENTERS

EZMarquee

EZMarquee 1 Line 20 Character and 1 Line 40 Character Selection Guide and Specifications (Outdoor)

EZ Marquee Outdoor Model Specifications			
Part Number	EZMR-1L20C-OUT EZMR-1L20C-E-OUT EZMR-1L20C-D-OUT EZMR-1L20C-P-OUT EZMRH-1L20C-OUT EZMRH-1L20C-E-OUT EZMRH-1L20C-D-OUT EZMRH-1L20C-P-OUT	EZMT-1L20C-OUT EZMT-1L20C-E-OUT EZMT-1L20C-D-OUT EZMT-1L20C-P-OUT	EZMR-1L40C-OUT EZMR-1L40C-E-OUT EZMR-1L40C-D-OUT EZMR-1L40C-P-OUT EZMRH-1L40C-OUT EZMRH-1L40C-E-OUT EZMRH-1L40C-D-OUT EZMRH-1L40C-P-OUT	EZMT-1L40C-OUT EZMT-1L40C-E-OUT EZMT-1L40C-D-OUT EZMT-1L40C-P-OUT
Display Type for Indoor	RED LED	TRI-Color LED	RED LED	TRI-Color LED
Display Type for "H"	RED Sunlight Readable 8000 nits		RED Sunlight Readable 8000 nits	
Specification	1 Line of 20 Char (2")		1 Lines of 40 Char (2")	
Max. Viewable Distance	100 Feet with 2" Characters		200 Feet with 4" Characters	
Power Consumption	15 watts	28 watts	30 watts	60 watts
Agency Approvals	UL, CUL, CE, pending			
Enclosure	NEMA 4/4X (Outdoor rated)			
Operating Temperature	-20° to 60° C Ambient			
Storage Temperature	-40° to 95° C Ambient			
Humidity	10% to 95% RH, Non-Condensing			
Input Power	110/220 VAC, 47-63Hz			
Electrical Interference	NEMA ICS 2-230 Showering Arc Test			
Electrical Tolerance	ANSI C37.90a-1974 (SWC) Surge With-Stand Capability Test			
Vibration	5 - 55 Hz 2G for 2 hours in the X, Y, and Z axis			
Shock	10G for under 12ms in the X, Y, and Z axis			
Serial Communications	Port 1 RS232; Port 2 RS422/485			
External Dimensions	36.9 "x 4.8" x 2.8" (936.44 x 121.43 x 69.85mm)		72.1" x 5.4" x 2.8" (1831.31 x 106.35 x 69.85mm)	
Weight	4.5 lbs	4.8 lbs	8 lbs	8.5 lbs

EZMarquee - 1 Line 40 Characters (Outdoor)

1 Line 40 Characters - NEMA 4X

The 1 Line 40 Char EZMarquee can hold up to a maximum of 40 characters (2") per line and features 1 line of RED/Tri-Color LEDs. EZMarquees are enclosed in NEMA 4X extruded aluminum housing with NEMA ICS 2-230 level of electrical noise immunity.
All 1 Line 40 Character models are capable of communicating over RS232 and RS422/485 along with different models for Ethernet, DeviceNet and Profibus connectivity.

Characteristics:

Character Height:	2"
Characters per Line:	40
Number of Lines:	1
Visibility:	100'

1 Line 40 Characters feature:

- 1 line of 40 characters max
- Pre-matched LEDs
- 24 Hour Burn-In tested
- International Character Set
- Hang Mounting
- NEMA 4/4X Outdoor Housing
- NEMA ICS 2-230
- 110/220 VAC Power Input
- Surge Protection
- 100,000+ Hours Rated Life

See the different communication interface options available in the charts below

RED Outdoor

Model Number	Interface
EZMR-1L40C-OUT	RS232 and RS422/485 only
EZMR-1L40C-E-OUT	Ethernet included
EZMR-1L40C-D-OUT	DeviceNet included
EZMR-1L40C-P-OUT	Profibus included

RED Outdoor Highbright

Model Number	Interface
EZMRH-1L40C-OUT	RS232 and RS422/485 only
EZMRH-1L40C-E-OUT	Ethernet included
EZMRH-1L40C-D-OUT	DeviceNet included
EZMRH-1L40C-P-OUT	Profibus included

TRI color Outdoor

Model Number	Interface
EZMT-1L40C-OUT	RS232 and RS422/485 only
EZMT-1L40C-E-OUT	Ethernet included
EZMT-1L40C-D-OUT	DeviceNet included
EZMT-1L40C-P-OUT	Profibus included

1 Line 40 Characters Dimensions

EZMarquee 1 Line 20 Character and 1 Line 40 Character Selection Guide and Specifications (Outdoor)

EZ Marquee Outdoor Model Specifications			
Part Number	EZMR-1L20C-OUT EZMR-1L20C-E-OUT EZMR-1L20C-D-OUT EZMR-1L20C-P-OUT EZMRH-1L20C-OUT EZMRH-1L20C-E-OUT EZMRH-1L20C-D-OUT EZMRH-1L20C-P-OUT	EZMT-1L20C-OUT EZMT-1L20C-E-OUT EZMT-1L20C-D-OUT EZMT-1L20C-P-OUT	EZMR-1L40C-OUT EZMR-1L40C-E-OUT EZMR-1L40C-D-OUT EZMR-1L40C-P-OUT EZMRH-1L40C-OUT EZMRH-1L40C-E-OUT EZMRH-1L40C-D-OUT EZMRH-1L40C-P-OUT	EZMT-1L40C-OUT EZMT-1L40C-E-OUT EZMT-1L40C-D-OUT EZMT-1L40C-P-OUT
Display Type for Indoor	RED LED	TRI-Color LED	RED LED	TRI-Color LED
Display Type for "H"	RED Sunlight Readable 8000 nits		RED Sunlight Readable 8000 nits	
Specification	1 Line of 20 Char (2")		1 Lines of 40 Char (2")	
Max. Viewable Distance	100 Feet with 2" Characters		200 Feet with 4" Characters	
Power Consumption	15 watts	28 watts	30 watts	60 watts
Agency Approvals	UL, CUL, CE, pending			
Enclosure	NEMA 4/4X (Outdoor rated)			
Operating Temperature	-20° to 60° C Ambient			
Storage Temperature	-40° to 95° C Ambient			
Humidity	10% to 95% RH, Non-Condensing			
Input Power	110/220 VAC, 47-63Hz			
Electrical Interference	NEMA ICS 2-230 Showering Arc Test			
Electrical Tolerance	ANSI C37.90a-1974 (SWC) Surge With-Stand Capability Test			
Vibration	5 - 55 Hz 2G for 2 hours in the X, Y, and Z axis			
Shock	10G for under 12ms in the X, Y, and Z axis			
Serial Communications	Port 1 RS232; Port 2 RS422/485			
External Dimensions	36.9 "x 4.8" x 2.8" (936.44 x 121.43 x 69.85mm)		72.1" x 5.4" x 2.8" (1831.31 x 106.35 x 69.85mm)	
Weight	4.5 lbs	4.8 lbs	8 lbs	8.5 lbs

EZMarquee - 2 Lines 10 Characters (Outdoor)

2 Lines 10 Characters - NEMA 4X

The 2 Line 10 Char EZMarquee can hold up to a maximum of 10 characters (2") per line and features 2 lines of RED/Tri-Color LEDs. EZMarquees are enclosed in NEMA 4X extruded aluminum housing with NEMA ICS 2-230 level of electrical noise immunity.

All 2 Line 10 Character models are capable of communicating over RS232 and RS422/485 along with different models for Ethernet, DeviceNet and Profibus connectivity.

2 Lines 10 Characters feature:

- 2 lines of 10 characters max
- Pre-matched LEDs
- 24 Hour Burn-In tested
- International Character Set
- Hang Mounting
- NEMA 4/4X Outdoor Housing
- NEMA ICS 2-230
- 110/220 VAC Power Input
- Surge Protection
- 100,000+ Hours Rated Life

See the different communication interface options available in the charts below

Characteristics:

Character Height:	2" / 4"
Characters per Line:	10 / 5
Number of Lines:	2 / 1
Visibility:	100' / 200'

RED Outdoor

Model Number	Interface
EZMR-2L10C-OUT	RS232 and RS422/485 only
EZMR-2L10C-E-OUT	Ethernet included
EZMR-2L10C-D-OUT	DeviceNet included
EZMR-2L10C-P-OUT	Profibus included

RED Outdoor Highbright

Model Number	Interface
EZMRH-2L10C-OUT	RS232 and RS422/485 only
EZMRH-2L10C-E-OUT	Ethernet included
EZMRH-2L10C-D-OUT	DeviceNet included
EZMRH-2L10C-P-OUT	Profibus included
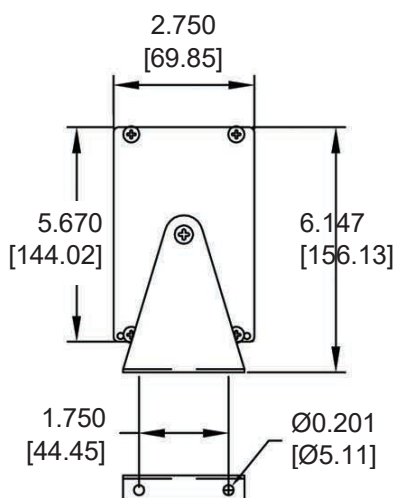
TRI color Outdoor

Model Number	Interface
EZMT-2L10C-OUT	RS232 and RS422/485 only
EZMT-2L10C-E-OUT	Ethernet included
EZMT-2L10C-D-OUT	DeviceNet included
EZMT-2L10C-P-OUT	Profibus included

2 Lines - 8 Characters Dimensions

2.750 [69.85]

5.670 [144.02]

6.147 [156.13]

1.750 [44.45]

Ø0.201 [Ø5.11]

18.868 [479.25]

18.451 [468.67]

18.036 [458.12]

MOUNTING HOLE CENTERS

EZMarquee 1 Line 10 Character and 2 Line 10 Character Selection Guide and Specifications (Outdoor)

EZ Marquee Outdoor Model Specifications			
Part Number	EZMR-1L10C-OUT EZMR-1L10C-E-OUT EZMR-1L10C-D-OUT EZMR-1L10C-P-OUT EZMRH-1L10C-OUT EZMRH-1L10C-E-OUT EZMRH-1L10C-D-OUT EZMRH-1L10C-P-OUT	EZMT-1L10C-OUT EZMT-1L10C-E-OUT EZMT-1L10C-D-OUT EZMT-1L10C-P-OUT	EZMR-2L10C-OUT EZMR-2L10C-E-OUT EZMR-2L10C-D-OUT EZMR-2L10C-P-OUT EZMRH-2L10C-OUT EZMRH-2L10C-E-OUT EZMRH-2L10C-D-OUT EZMRH-2L10C-P-OUT	EZMT-2L10C-OUT EZMT-2L10C-E-OUT EZMT-2L10C-D-OUT EZMT-2L10C-P-OUT
Display Type for Indoor	RED LED	TRI-Color LED	RED LED	TRI-Color LED
Display Type for "H"	RED Sunlight Readable 8000 nits		RED Sunlight Readable 8000 nits	
Specification	1 Line of 10 Char (2")		2 Lines of 10 Char (2")	
Max. Viewable Distance	100 Feet with 2" Characters		200 Feet with 4" Characters	
Power Consumption	8 watts	14 watts	15 watts	28 watts
Agency Approvals	UL, CUL, CE, pending			
Enclosure	NEMA 4/4X (Outdoor rated)			
Operating Temperature	-20° to 60° C Ambient			
Storage Temperature	-40° to 95° C Ambient			
Humidity	10% to 95% RH, Non-Condensing			
Input Power	110/220 VAC, 47-63Hz			
Electrical Interference	NEMA ICS 2-230 Showering Arc Test			
Electrical Tolerance	ANSI C37.90a-1974 (SWC) Surge With-Stand Capability Test			
Vibration	5 - 55 Hz 2G for 2 hours in the X, Y, and Z axis			
Shock	10G for under 12ms in the X, Y, and Z axis			
Serial Communications	Port 1 RS232; Port 2 RS422/485			
External Dimensions	18.9" x 4.8" x 2.8" (479.25 x 121.43 x 69.85mm)		18.9" x 6.2" x 2.8" (479.25 x 156.13 x 69.85mm)	
Weight	2.8 lbs	3 lbs	5 lbs	5.2 lbs

EZMarquee - 2 Lines 20 Characters (Outdoor)

2 Lines 20 Characters - NEMA 4X

The 2 Line 20 Char EZMarquee can hold up to a maximum of 20 characters (2") per line and features 2 lines of RED/Tri-Color LEDs. EZMarquees are enclosed in NEMA 4X extruded aluminum housing with NEMA ICS 2-230 level of electrical noise immunity.

All 2 Line 20 Character models are capable of communicating over RS232 and RS422/485 along with different models for Ethernet, DeviceNet and Profibus connectivity.

Characteristics:

Character Height:	2" / 4"
Characters per Line:	20 / 10
Number of Lines:	2 / 1
Visibility:	100' / 200'

2 Lines 20 Characters feature:

- 2 lines of 20 characters max
- Pre-matched LEDs
- 24 Hour Burn-In tested
- International Character Set
- Hang Mounting
- NEMA 4/4X Outdoor Housing
- NEMA ICS 2-230
- 110/220 VAC Power Input
- Surge Protection
- 100,000+ Hours Rated Life

See the different communication interface options available in the charts below

RED Outdoor

Model Number	Interface
EZMR-2L20C-OUT	RS232 and RS422/485 only
EZMR-2L20C-E-OUT	Ethernet included
EZMR-2L20C-D-OUT	DeviceNet included
EZMR-2L20C-P-OUT	Profibus included

RED Outdoor Highbright

Model Number	Interface
EZMRH-2L20C-OUT	RS232 and RS422/485 only
EZMRH-2L20C-E-OUT	Ethernet included
EZMRH-2L20C-D-OUT	DeviceNet included
EZMRH-2L20C-P-OUT	Profibus included

TRI color Outdoor

Model Number	Interface
EZMT-2L20C-OUT	RS232 and RS422/485 only
EZMT-2L20C-E-OUT	Ethernet included
EZMT-2L20C-D-OUT	DeviceNet included
EZMT-2L20C-P-OUT	Profibus included

2 Lines 20 Characters Dimensions

2.750 [69.85]
5.670 [144.02]
6.147 [156.13]
1.750 [44.45]
Ø0.201 [Ø5.11]

36.868 [936.44]
36.451 [925.86]
36.036 [915.31]

MOUNTING HOLE CENTERS

EZMarquee

EZMarquee 2 Line 20 Character and 2 Line 40 Character Selection Guide and Specifications (Outdoor)

EZ Marquee Outdoor Model Specifications				
Part Number	EZMR-2L20C-OUT EZMR-2L20C-E-OUT EZMR-2L20C-D-OUT EZMR-2L20C-P-OUT EZMRH-2L20C-OUT EZMRH-2L20C-E-OUT EZMRH-2L20C-D-OUT EZMRH-2L20C-P-OUT	EZMT-2L20C-OUT EZMT-2L20C-E-OUT EZMT-2L20C-D-OUT EZMT-2L20C-P-OUT	EZMR-2L40C-OUT EZMR-2L40C-E-OUT EZMR-2L40C-D-OUT EZMR-2L40C-P-OUT EZMRH-2L40C-OUT EZMRH-2L40C-E-OUT EZMRH-2L40C-D-OUT EZMRH-2L40C-P-OUT	EZMT-2L40C-OUT EZMT-2L40C-E-OUT EZMT-2L40C-D-OUT EZMT-2L40C-P-OUT
Display Type for Indoor	RED LED	TRI-Color LED	RED LED	TRI-Color LED
Display Type for "H"	RED Sunlight Readable 8000 nits		RED Sunlight Readable 8000 nits	
Specification	2 Lines of 20 Char (2")		2 Lines of 40 Char (2")	
Max. Viewable Distance	200 Feet with 4" Characters			
Power Consumption	30 watts	55 watts	54 watts	100 watts
Agency Approvals	UL, CUL, CE, pending			
Enclosure	NEMA 4/4X (Outdoor rated)			
Operating Temperature	-20° to 60° C Ambient			
Storage Temperature	-40° to 95° C Ambient			
Humidity	10% to 95% RH, Non-Condensing			
Input Power	110/220 VAC, 47-63Hz			
Electrical Interference	NEMA ICS 2-230 Showering Arc Test			
Electrical Tolerance	ANSI C37.90a-1974 (SWC) Surge With-Stand Capability Test			
Vibration	5 - 55 Hz 2G for 2 hours in the X, Y, and Z axis			
Shock	10G for under 12ms in the X, Y, and Z axis			
Serial Communications	Port 1 RS232; Port 2 RS422/485			
External Dimensions	36.1" x 11.7 "x 2.8" (936.44 x 156.13 x 69.85mm)		72.1" x 5.4" x 2.8" (1831.31 x 106.35 x 69.85mm)	
Weight	8 lbs	8.5 lbs	15 lbs	16 lbs

EZMarquee - 2 Lines 40 Characters (Outdoor)

2 Lines 40 Characters - NEMA 4X

The 2 Line 40 Char EZMarquee can hold up to a maximum of 40 characters (2") per line and features 2 lines of RED/Tri-Color LEDs. EZMarquees are enclosed in NEMA 4X extruded aluminum housing with NEMA ICS 2-230 level of electrical noise immunity.
All 2 Line 40 Character models are capable of communicating over RS232 and RS422/485 along with different models for Ethernet, DeviceNet and Profibus connectivity.

2 Lines 40 Characters feature:

• 2 lines of 40 characters max
• Pre-matched LEDs
• 24 Hour Burn-In tested
• International Character Set
• Hang Mounting
• NEMA 4/4X Outdoor Housing
• NEMA ICS 2-230
• 110/220 VAC Power Input
• Surge Protection
• 100,000+ Hours Rated Life

See the different communication interface options available in the charts below

Characteristics:

Character Height:	2" / 4"
Characters per Line:	40 / 20
Number of Lines:	2 / 1
Visibility:	100' / 200'

RED Outdoor

Model Number	Interface
EZMR-2L40C-OUT	RS232 and RS422/485 only
EZMR-2L40C-E-OUT	Ethernet included
EZMR-2L40C-D-OUT	DeviceNet included
EZMR-2L40C-P-OUT	Profibus included

RED Outdoor Highbright

Model Number	Interface
EZMRH-2L40C-OUT	RS232 and RS422/485 only
EZMRH-2L40C-E-OUT	Ethernet included
EZMRH-2L40C-D-OUT	DeviceNet included
EZMRH-2L40C-P-OUT	Profibus included

TRI color Outdoor

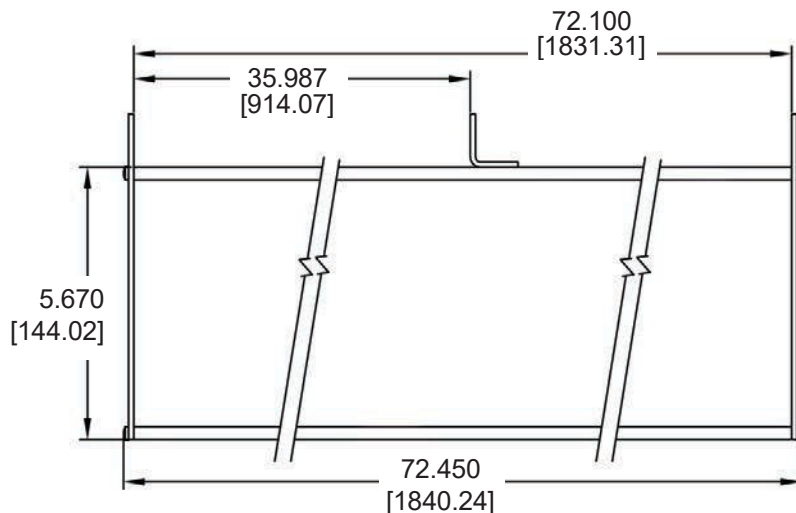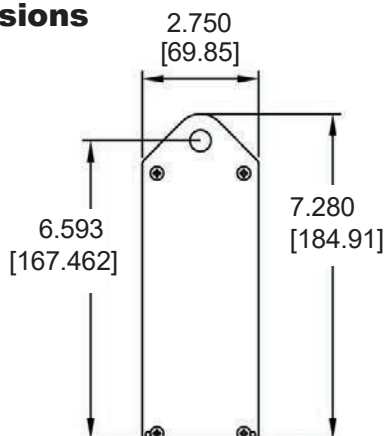| Model Number	Interface
EZMT-2L40C-OUT	RS232 and RS422/485 only
EZMT-2L40C-E-OUT	Ethernet included
EZMT-2L40C-D-OUT	DeviceNet included
EZMT-2L40C-P-OUT	Profibus included

2 Lines 40 Characters
Dimensions

EZMarquee 2 Line 20 Character and 2 Line 40 Character Selection Guide and Specifications (Outdoor)

EZ Marquee Outdoor Model Specifications			
Part Number	EZMR-2L20C-OUT EZMR-2L20C-E-OUT EZMR-2L20C-D-OUT EZMR-2L20C-P-OUT EZMRH-2L20C-OUT EZMRH-2L20C-E-OUT EZMRH-2L20C-D-OUT EZMRH-2L20C-P-OUT	EZMT-2L20C-OUT EZMT-2L20C-E-OUT EZMT-2L20C-D-OUT EZMT-2L20C-P-OUT	EZMR-2L40C-OUT EZMR-2L40C-E-OUT EZMR-2L40C-D-OUT EZMR-2L40C-P-OUT EZMRH-2L40C-OUT EZMRH-2L40C-E-OUT EZMRH-2L40C-D-OUT EZMRH-2L40C-P-OUT	EZMT-2L40C-OUT EZMT-2L40C-E-OUT EZMT-2L40C-D-OUT EZMT-2L40C-P-OUT
Display Type for Indoor	RED LED	TRI-Color LED	RED LED	TRI-Color LED
Display Type for "H"	RED Sunlight Readable 8000 nits		RED Sunlight Readable 8000 nits	
Specification	2 Lines of 20 Char (2")		2 Lines of 40 Char (2")	
Max. Viewable Distance	200 Feet with 4" Characters			
Power Consumption	30 watts	55 watts	54 watts	100 watts
Agency Approvals	UL, CUL, CE, pending			
Enclosure	NEMA 4/4X (Outdoor rated)			
Operating Temperature	-20° to 60° C Ambient			
Storage Temperature	-40° to 95° C Ambient			
Humidity	10% to 95% RH, Non-Condensing			
Input Power	110/220 VAC, 47-63Hz			
Electrical Interference	NEMA ICS 2-230 Showering Arc Test			
Electrical Tolerance	ANSI C37.90a-1974 (SWC) Surge With-Stand Capability Test			
Vibration	5 - 55 Hz 2G for 2 hours in the X, Y, and Z axis			
Shock	10G for under 12ms in the X, Y, and Z axis			
Serial Communications	Port 1 RS232; Port 2 RS422/485			
External Dimensions	36.1" x 11.7 "x 2.8" (936.44 x 156.13 x 69.85mm)		72.1" x 5.4" x 2.8" (1831.31 x 106.35 x 69.85mm)	
Weight	8 lbs	8.5 lbs	15 lbs	16 lbs

EZMarquee - 4 Lines 20 Characters (Outdoor)

4 Lines 20 Characters - NEMA 4X

The 4 Line 20 Char EZMarquee can hold up to a maximum of 20 characters (2") per line and features 4 lines of RED/Tri-Color LEDs. EZMarquees are enclosed in NEMA 4X extruded aluminum housing with NEMA ICS 2-230 level of electrical noise immunity.

All 4 Line 20 Character models are capable of communicating over RS232 and RS422/485 along with different models for Ethernet, DeviceNet and Profibus connectivity.

Characteristics:

Character Height:	2" / 4" / 6" / 8"
Characters per Line:	20 / 10 / 6 / 5
Number of Lines:	4 / 2 / 1 / 1
Visibility:	100'/200'/300'/400'

4 Lines 20 Characters feature:

- 4 lines of 20 characters max
- Pre-matched LEDs
- 24 Hour Burn-In tested
- International Character Set
- Hang Mounting
- NEMA 4/4X Outdoor Housing
- NEMA ICS 2-230
- 110/220 VAC Power Input
- Surge Protection
- 100,000+ Hours Rated Life

See the different communication interface options available in the charts below

RED Outdoor

Model Number	Interface
EZMR-4L20C-OUT	RS232 and RS422/485 only
EZMR-4L20C-E-OUT	Ethernet included
EZMR-4L20C-D-OUT	DeviceNet included
EZMR-4L20C-P-OUT	Profibus included

TRI color Outdoor

Model Number	Interface
EZMT-4L20C-OUT	RS232 and RS422/485 only
EZMT-4L20C-E-OUT	Ethernet included
EZMT-4L20C-D-OUT	DeviceNet included
EZMT-4L20C-P-OUT	Profibus included

RED Outdoor Highbright

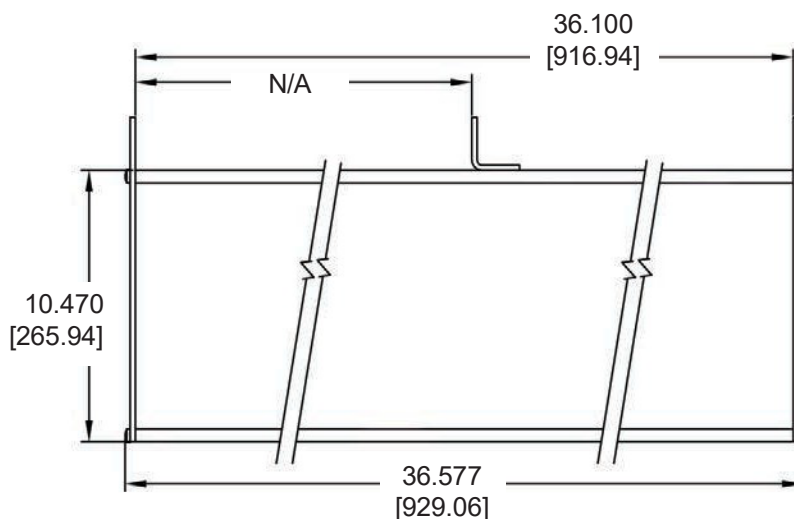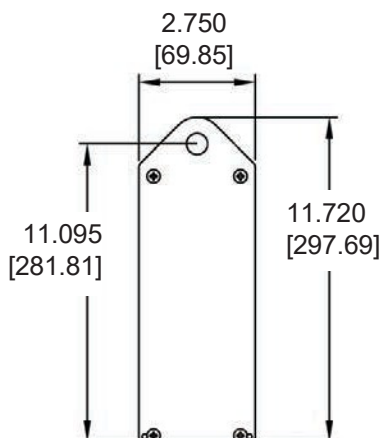| Model Number	Interface
EZMR-H4L20C-OUT	RS232 and RS422/485 only
EZMRH-4L20C-E-OUT	Ethernet included
EZMRH-4L20C-D-OUT	DeviceNet included
EZMRH-4L20C-P-OUT	Profibus included

4 Lines 20 Characters Dimensions

2.750 [69.85]

11.095 [281.81]

11.720 [297.69]

36.100 [916.94]

N/A

10.470 [265.94]

36.577 [929.06]

EZMarquee 4 Line 20 Character and 4 Line 40 Character Selection Guide and Specifications (Outdoor)

	EZ Marquee Outdoor Model Specifications			
Part Number	EZMR-4L20C-OUT EZMR-4L20C-E-OUT EZMR-4L20C-D-OUT EZMR-4L20C-P-OUT EZMRH-4L20C-OUT EZMRH-4L20C-E-OUT EZMRH-4L20C-D-OUT EZMRH-4L20C-P-OUT	EZMT-4L20C-OUT EZMT-4L20C-E-OUT EZMT-4L20C-D-OUT EZMT-4L20C-P-OUT	EZMR-4L40C-OUT EZMR-4L40C-E-OUT EZMR-4L40C-D-OUT EZMR-4L40C-P-OUT EZMRH-4L40C-OUT EZMRH-4L40C-E-OUT EZMRH-4L40C-D-OUT EZMRH-4L40C-P-OUT	EZMT-4L40C-OUT EZMT-4L40C-E-OUT EZMT-4L40C-D-OUT EZMT-4L40C-P-OUT
Display Type for Indoor	RED LED	TRI-Color LED	RED LED	TRI-Color LED
Display Type for "H"	RED Sunlight Readable 8000 nits		RED Sunlight Readable 8000 nits	
Specification	4 Lines of 20 Char (2")		4 Lines of 40 Char (2")	
Max. Viewable Distance	400 Feet with 8" Characters			
Power Consumption	55 watts	100 watts	100 watts	180 watts
Agency Approvals	UL, CUL, CE, pending			
Enclosure	NEMA 4/4X (Outdoor rated)			
Operating Temperature	-20° to 60° C Ambient			
Storage Temperature	-40° to 95° C Ambient			
Humidity	10% to 95% RH, Non-Condensing			
Input Power	110/220 VAC, 47-63Hz			
Electrical Interference	NEMA ICS 2-230 Showering Arc Test			
Electrical Tolerance	ANSI C37.90a-1974 (SWC) Surge With-Stand Capability Test			
Vibration	5 - 55 Hz 2G for 2 hours in the X, Y, and Z axis			
Shock	10G for under 12ms in the X, Y, and Z axis			
Serial Communications	Port 1 RS232; Port 2 RS422/485			
External Dimensions	36.577" x 11.720" x 2.750" (929.06 x 297.69 x 69.85mm)		72.450" x 11.720" x 2.750" (1840.24 x 297.69 x 69.85mm)	
Weight	15 lbs	16 lbs	30 lbs	32 lbs

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EZMarquee - 4 Lines 40 Characters (Outdoor)

4 Lines 40 Characters - NEMA 4X

The 4 Line 40 Char EZMarquee can hold up to a maximum of 40 characters (2") per line and features 4 lines of RED/Tri-Color LEDs. EZMarquees are enclosed in NEMA 4X extruded aluminum housing with NEMA ICS 2-230 level of electrical noise immunity.

All 4 Line 40 Character models are capable of communicating over RS232 and RS422/485 along with different models for Ethernet, DeviceNet and Profibus connectivity.

Characteristics:

Character Height:	2" / 4" / 6" / 8"
Characters per Line:	40 / 20 / 13 / 10
Number of Lines:	4 / 2 / 1 / 1
Visibility:	100' / 200' / 300' / 400'

4 Lines 40 Characters feature:

• 4 lines of 40 characters max
• Pre-matched LEDs
• 24 Hour Burn-In tested
• International Character Set
• Hang Mounting
• NEMA 4/4X Outdoor Housing
• NEMA ICS 2-230
• 110/220 VAC Power Input
• Surge Protection
• 100,000+ Hours Rated Life

See the different communication interface options available in the charts below

RED Outdoor

Model Number	Interface
EZMR-4L40C-OUT	RS232 and RS422/485 only
EZMR-4L40C-E-OUT	Ethernet included
EZMR-4L40C-D-OUT	DeviceNet included
EZMR-4L40C-P-OUT	Profibus included

TRI color Outdoor

Model Number	Interface
EZMT-4L40C-OUT	RS232 and RS422/485 only
EZMT-4L40C-E-OUT	Ethernet included
EZMT-4L40C-D-OUT	DeviceNet included
EZMT-4L40C-P-OUT	Profibus included

RED Outdoor Highbright

Model Number	Interface
EZMRH-4L40C-OUT	RS232 and RS422/485 only
EZMRH-4L40C-E-OUT	Ethernet included
EZMRH-4L40C-D-OUT	DeviceNet included
EZMRH-4L40C-P-OUT	Profibus included

(BOTTOM)

4 Lines 40 Characters Dimensions

(TOP)

2.750
[69.85]

11.095
[281.81]

11.720
[297.69]

72.100
[1831.31]

35.987
[914.07]

10.470
[265.94]

72.450
[1840.24]

EZMarquee 4 Line 20 Character and 4 Line 40 Character Selection Guide and Specifications (Outdoor)

	EZ Marquee Outdoor Model Specifications			
Part Number	EZMR-4L20C-OUT EZMR-4L20C-E-OUT EZMR-4L20C-D-OUT EZMR-4L20C-P-OUT EZMRH-4L20C-OUT EZMRH-4L20C-E-OUT EZMRH-4L20C-D-OUT EZMRH-4L20C-P-OUT	EZMT-4L20C-OUT EZMT-4L20C-E-OUT EZMT-4L20C-D-OUT EZMT-4L20C-P-OUT	EZMR-4L40C-OUT EZMR-4L40C-E-OUT EZMR-4L40C-D-OUT EZMR-4L40C-P-OUT EZMRH-4L40C-OUT EZMRH-4L40C-E-OUT EZMRH-4L40C-D-OUT EZMRH-4L40C-P-OUT	EZMT-4L40C-OUT EZMT-4L40C-E-OUT EZMT-4L40C-D-OUT EZMT-4L40C-P-OUT
Display Type for Indoor	RED LED	TRI-Color LED	RED LED	TRI-Color LED
Display Type for "H"	RED Sunlight Readable 8000 nits		RED Sunlight Readable 8000 nits	
Specification	4 Lines of 20 Char (2")		4 Lines of 40 Char (2")	
Max. Viewable Distance	400 Feet with 8" Characters			
Power Consumption	55 watts	100 watts	100 watts	180 watts
Agency Approvals	UL, CUL, CE, pending			
Enclosure	NEMA 4/4X (Outdoor rated)			
Operating Temperature	-20° to 60° C Ambient			
Storage Temperature	-40° to 95° C Ambient			
Humidity	10% to 95% RH, Non-Condensing			
Input Power	110/220 VAC, 47-63Hz			
Electrical Interference	NEMA ICS 2-230 Showering Arc Test			
Electrical Tolerance	ANSI C37.90a-1974 (SWC) Surge With-Stand Capability Test			
Vibration	5 - 55 Hz 2G for 2 hours in the X, Y, and Z axis			
Shock	10G for under 12ms in the X, Y, and Z axis			
Serial Communications	Port 1 RS232; Port 2 RS422/485			
External Dimensions	36.577" x 11.720" x 2.750" (929.06 x 297.69 x 69.85mm)		72.450" x 11.720" x 2.750" (1840.24 x 297.69 x 69.85mm)	
Weight	15 lbs	16 lbs	30 lbs	32 lbs