

# Pulse counters, electronic

**LCD modules**      **Adding, 7 digits (DC)**      **190**

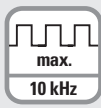


The single-channel count module type 190 for PCB mounting, with 2 voltage ranges (4.75 ... 15 and 9 ... 60 V DC) and large 7-digit LCD display, boasts a very wide temperature range.

This ensures the device is extremely robust and suitable for many application areas, even under the harshest operating conditions.



Supply voltage



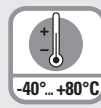
Max. count frequency



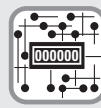
Input type



High shock resistance



Temperature range



PCB mount



LCD display



Electrical reset

## Powerful

- Count frequency up to 10 kHz.
- 7-digit LCD display, 6 mm high.
- Low operating current.
- Wide operating voltage and temperature range.
- Very high shock and vibration resistance.

## Simple

- Non-volatile memory (no battery).
- Single channel count input.
- Electrical reset.
- Very high reliability.
- Small size and very competitive price.

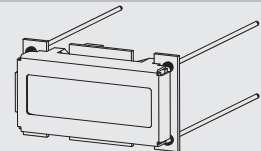
## Order no.

Supply voltage  
4.75 ... 15 V DC  
9 ... 60 V DC

Order no.  
**6.190.012.F00** <sup>1)</sup>  
**6.190.012.G00**

Art. no.  
162 135  
162 136

Delivery specification  
· LCD counter module type 190  
· Operating instructions



1) Stock types

# Pulse counters, electronic

<b>LCD modules</b>	<b>Adding, 7 digits (DC)</b>	<b>190</b>
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## Technical data

### General technical data

<b>Display</b>	7 digits, LCD display, figure height 6 mm [0.24"]
<b>Data backup</b>	EEPROM
<b>Memory</b>	CMOS EEPROM non-volatile memory up to 10 years data backup
<b>Operating temperature</b>	-40 °C ... +80 °C [-40 °F ... +176 °F] (non-condensing)
<b>Working temperature</b>	-20 °C ... +80 °C [-4 °F ... +176 °F] (non-condensing)
<b>Storage temperature</b>	-50 °C ... +90 °C [-58 °F ... +194 °F]

### Electrical characteristics

<b>Supply voltage</b>	4.75 ... 15 V DC with reverse polarity protection 9 ... 60 V DC
<b>Current consumption</b>	8 mA at 4.75 ... 15 V DC 6 mA at 9 ... 60 V DC
<b>EMC standards</b>	EN 55011 class B EN 61000-6-2, EN 61000-6-3, EN 61326-1

The module must be protected against inductive voltage spikes and high energy noise interference.

### Mechanical characteristics

<b>Housing</b>	dimensions 18.4 x 32.4 mm [0.72 x 1.28"] color black
<b>Weight</b>	approx. 8 g [0.28 oz]
<b>Shock resistance</b> acc. to EN 60068-2-27	550 m/s <sup>2</sup> , 11 ms
<b>Vibration resistance</b> acc. to EN 60068-2-6	50 ... 200 m/s <sup>2</sup> , 10 ... 80 Hz

### Inputs

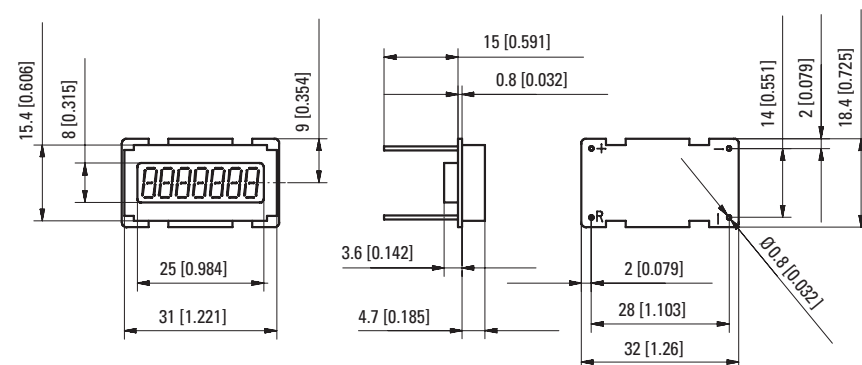
<b>Count input</b>	HIGH 4 ... 60 V DC LOW 0 ... 0.7 V DC
max. counting frequency	10 kHz, edge triggered (negative edge)
<b>Reset input</b>	HIGH 4 ... 60 V DC LOW 0 ... 0.7 V DC
pulse length	1 ms edge triggered (positive edge)

### Approvals

<b>CE compliant</b> in accordance with	EMC Directive 2014/30/EU RoHS Directive 2011/65/EU
<b>UKCA compliant</b> in accordance with	EMC Regulations S.I. 2016/1091 RoHS Regulations S.I. 2012/3032

## Dimensions

Dimensions in mm [inch]



## Terminal assignment

