

# Pulse counters, electronic

<b>LCD modules</b>	<b>Adding, 7 digits (DC)</b>	<b>190</b>
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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.



Power supply



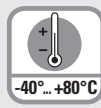
Max. count frequency



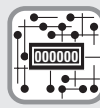
Input type



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.

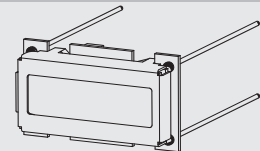
## Order no.

*Power supply*  
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

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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 data backup up to 10 years
<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]

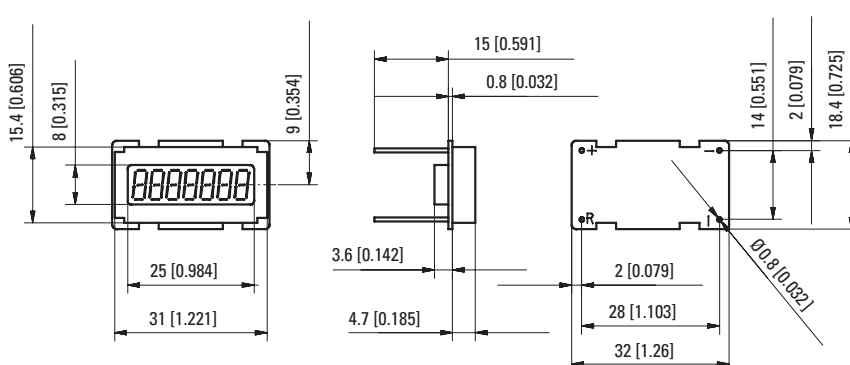
Inputs	
<b>Count input</b>	HIGH 4 ... 60 V DC LOW 0 ... 0.7 V DC
max. counting frequency	10 kHz, edge triggered (negative edge)
<b>Reset input</b>	HIGH 4 ... 60 V DC LOW 0 ... 0.7 V DC
pulse length	1 ms edge triggered (positive edge)

Electrical characteristics	
<b>Power supply</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 color	18.4 x 32.4 mm [0.72 x 1.28"] 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

### Dimensions

Dimensions in mm [inch]



### Terminal assignment

