

Cellocator Power Surge Protector

Product Overview



Cellocator Division
Pointer Telocation Ltd.

Proprietary and Confidential

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POINTER



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1 Introduction

1.1 Scope and Purpose

The purpose of this document is to describe the features, capabilities and installation instruction for the **FL0014 Power Surge Protector** and the **FL0018 EC Power Surge Protector**. It is intended for service providers' managers, customer support, and sales personnel.

1.2 Abbreviations

Abbreviation	Description
EC	economy

1.3 References

All the reference documents listed in the following table can be downloaded from the Knowledge Base section of the Cellocator website (www.cellocator.com).

#	Reference	Description
1.		
2.		

1.4 Revision History

Version	Date	Description
1.0	02/02/2014	Initial version

2 Product Description

2.1 Overview

The **FL0014 Power Surge Protector** provides adequate protection against exceptional electrical disturbances in the vehicle environment. It **suppresses** spikes with voltage higher than expected to inhibited level.

The **FL0018 EC Power Surge Protector** is a complementary product to the FL0014 Power Surge Protector, protecting the Cellocator unit from high voltage spikes by **cutting off** the power when high voltage spikes are detected.

The devices utilize electrical circuit housed in shrink with pair of wires connected to the vehicle power source and two wires connected to the Cellocator unit Power and Ground. They share same look and dimensions.

It should be applied between the vehicle's power source and the protected Cellocator unit whenever one of the conditions described below is applicable or when the native compliance of Cellocator devices with E-Mark standards for aftermarket ESA (ISO-7637 pulse type 1-4) is insufficient for some other reasons. It was designed to protect all Cellocator's units.

It is recommended to use it in vehicles where extreme electrical disturbances are expected. Possible scenarios are:

- ◆ Vehicles with poor voltage regulation systems.
- ◆ Whenever there is a doubt about the vehicle voltage disturbances.
- ◆ When there is a connector between the protected device and the power source with frequent connections and disconnections (like in a Truck / Trailer), the protection circuit should be installed between the connector and the device.

2.2 Features

- ◆ Low cost
- ◆ Convenient, easy installation
- ◆ Compatible with Cello and CR Families.
- ◆ ISO-7637 immunity standards compliant

2.3 Wire description



The Power Surge Protector input wires are short and thick:



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- ◆ The Input VCC (+) wire is **red**.
 - ◆ The Input GND (-) wire is **black**.
- The outputs wires are long and thin:
- ◆ The Output VCC (+) wire is **red**.
 - ◆ The Output GND (-) wire is **black**.

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3 Installation instructions

The Input GND (-) wire should be connected to the car ground or car battery (-).

The Input VCC (+) input should be connected to car 12/24V source or battery (+).

The Output GND (-) should be connected to the Protected device GND (-) input.

The Output VCC (+) should be connected to the Protected device VCC (+) input.

NOTES:

1. Incorrect connections may lead to malfunction and damage.
 2. The Power Surge Protector should be installed in addition to the required fuse.
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4 Technical Specifications

Electrical Ratings	FL0014	FL0018
Operating Temperature range	-40°C to 70°C	-40°C to 70°C
Storage Temperature range	-40°C to 85°C	-40°C to 85°C
Humidity	95% non condensing	95% non condensing
Ingress Protection	IP 50	IP 50
Operating voltage range	9V – 36V	9V – 36V
Provides immunity for pulses according to ISO-7637-2:2011	Yes	Yes
Provides immunity according to ISO-16750- Load Dump pulse	90V	96V
Maximum momentary reverse voltage protection	600V	600V
Maximum self current consumption	2 mA	1 mA
Reverse polarity protection	Yes	Yes
RoHS Compliant	Yes	Yes
Wires specification	Value	
Input wires dimensions	10 cm, 16 AWG	10 cm, 16 AWG
Output wires dimensions	50 cm, 20 AWG	50 cm, 22 AWG
UL 1015 compliant	Yes	Yes