

# Cello Protector Product Overview



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# Cellocator Cello Protector Product Overview



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## 1 Introduction

### 1.1 Overview

The 712-20025 Cello Protector is a low cost silicone / rubber cover for CelloFamily devices, designed to improve the environment and ingress protection of the device from IP40 to IP66, increasing solid-particle-protection from 1 mm to Dust-Tight (No ingress of dust; complete protection against contact) and liquid-ingress-protection from none to Powerful-water-jets protection.

This dust and water proof solution provides the installer with more flexibility, as the Cello unit can now be installed in vehicle cavities other than the passenger compartment or the trunk. The Cello Protector is used in conjunction with Molded-harnesses in order to provide perfect protection.

### 1.2 Abbreviations

Abbreviation	Description
IP40	<a href="#">Ingress Protection 40</a>
IP66	<a href="#">Ingress Protection 66</a>

### 1.3 References

All the reference documents listed in the following table can be downloaded from the support section of the Pointer website ([www.pointer.com](http://www.pointer.com)).

#	Reference	Description
1.	<a href="#">CelloFamily Hardware Installation Guide</a>	
2.		

### 1.4 Revision History

Version	Date	Description
1.0	14/12/2011	Initial version
1.1	9/5/2012	IP66 compliance



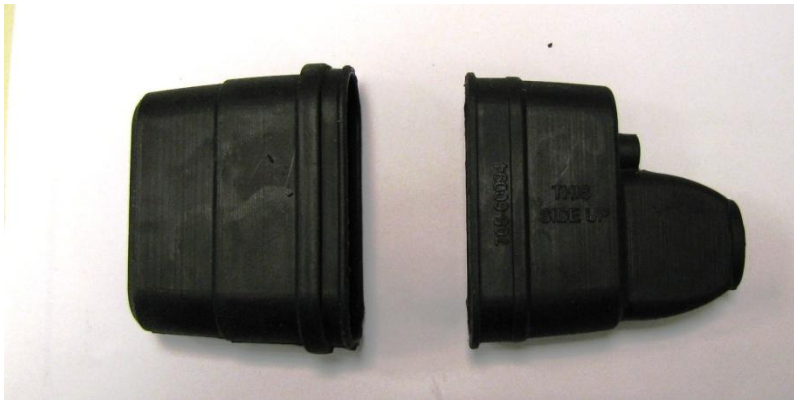
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## 2 Product Description

### 2.1 Solution Components

The Cello Protector includes 2 silicon / rubber parts and a cable tie. The waterproof solution also requires Cello harnesses utilizing molds. The IP66 compliance is dependent on following the instructions provided in this document. The two silicon / rubber parts and the unit with mold, covered by the protector and ready for installation, are shown in the pictures below.



The Cello molded harnesses that support the Cello Protector are listed below:

- ◆ 711-00248 - full harness with shielded audio cables
- ◆ 711-00068 - 6 wire harness
- ◆ 711-00156 - 9 wire harness
- ◆ 711-00239 - 14 wire harness
- ◆ 711-00196 - full harness



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## NOTES:

The mold of the 711-00068 6-wire harness should be changed to comply with the IP65 standard. This change will be available only in the future upcoming batch.

IP66 compliance has been tested in accredited lab for its compliance with [IEC 60529](#).

## 2.2 Features

- ◆ IP66
- ◆ Low cost
- ◆ Provides an additional level of impact protection thanks to the silicone shock absorption attributes
- ◆ Smart and professional look
- ◆ Convenient, easy set-up and installation
- ◆ Compliant with CelloFamily devices, including: Cello-F/R, Cello-AR, Cello-IQ

## 2.3 Benefits

- ◆ Enables installation of the Cello unit in vehicle cavities other than the passenger compartment or the trunk. For example:
  - Under/behind the front/rear bumpers
  - Under the mirror plastic covers
- ◆ Extends the solutions range supported by the CelloFamily, allowing it to compete in applications where regular Cello units cannot.

## 2.4 Applications

The Cello Protector can enhance the application range supported by the CelloFamily for advanced fleet management and security in logistics, delivery, transportation and trucking segments where the installation of the device inside the passenger compartment is inconvenient or not feasible.

In addition, there is a growing market of fleet management and security applications for **motorcycles** where the tracking device must be installed under the plastic covers, an area which is not hermetically protected against dust and water. In such cases, the Cello Protector provides the perfect solution.

The third vertical market in which the Cello Protector may provide an adequate solution is the **Heavy and Agriculture machinery** segments, where a power source is available but the structure of the vehicle does not enable installation in a hermetic environment.



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### 3 Technical Specifications

Parameter	Value
Dimensions of unit covered with the protector	135 x 85 x35 mm
Weight	~70 g
Material	Methyl vinyl Silicone rubber
Material Flammability Rating	UL 94, classification - HB
Temperature range	-40 to 200 °C
RoHS	Supported
IP Rating (on proper setup when mounted in the CelloFamily enclosure according to instructions)	IP 66



## 4 Setup Instructions

The following procedure describes how to set up the Cello-F/R unit with the Cello Protector.

➤ **To set up the Cello-F/R unit with the Cello Protector:**

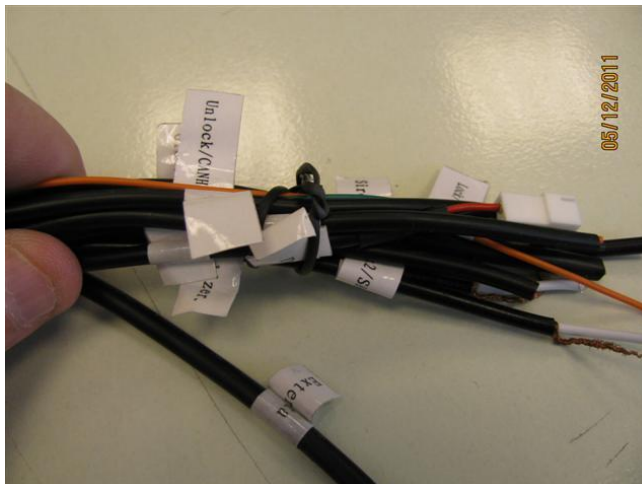
1. Apply silicon spray to the internal side of the part with the notation 'THIS SIDE UP' and the number 705-60094, as shown in the pictures below.



2. If the harness includes a communication connector (RJ45) it should be handled first. Insert the communication cable into the protector hole, as shown in the picture below, and then pull it until the RJ45 connector passes through the hole.

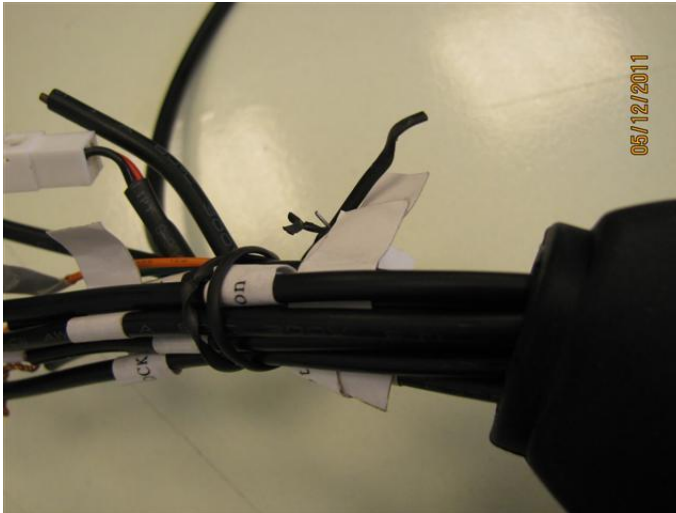


3. Insert all the other wires through the protector hole, as shown in the pictures below.





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4. Insert the Hands Free connectors and cable through the protector hole, as shown in the picture below.



5. Insert the Battery connector through the protector hole as shown in the picture below.



6. Remove the antenna cover from the unit and connect the harness to the unit, as shown in the pictures below.



7. Cover the Cello unit with the protector part and ensure that it covers the mold tightly, as shown in the pictures below.





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8. Cover the remaining part of the unit with the other part of the protector, as shown in the pictures below.





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9. Attach the two parts of the protector using a cable tie, as shown in the picture below.



10. The setup is complete and the unit is ready for installation.





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### 5 Installation Tips

- ◆ For full installation instructions, please refer to the [CelloFamily Hardware Installation Guide](#).
- ◆ To attach the device to its location use a thick, two sided, adhesive tape, to connect between the device and the fixed support, and then use two plastic straps (cable ties) to secure the device to its location. Make sure the device is well positioned and will not work itself loose (it may either fall or create irritating noises if not properly secured).
- ◆ The unit covered with the Cello Protector cannot be installed in a high temperature environment or next to a heat source such as the engine compartment or the exhaust system.
- ◆ The Cello Protector is not immersion protected and cannot be installed where water flooding is expected or may happen.