



SMART.IC2

Quick assembling manual

	Data	Note
Release 1.0	November 7, 2006	Official Documents
Release 2.0	August 26, 2008	New case – Alignment - Programming

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1 Assembly on battery-side DINxxx-type connector

1.1 Battery monitoring mode (S2 / S2GPRS)

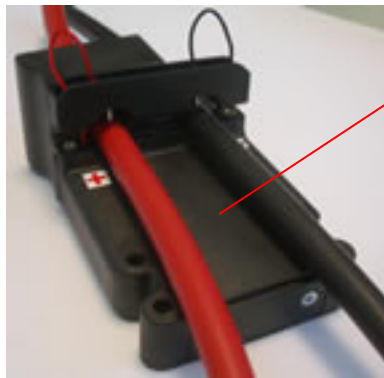
Material needed:

1 turn screwdriver (PH1 type)

1A stage

Connector
side

Battery
side



A



B

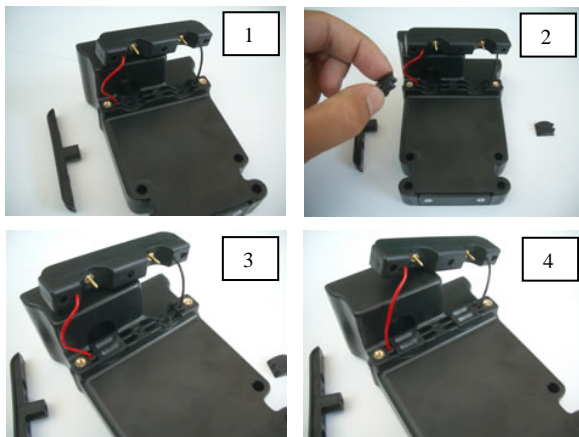
Identify battery side and connector side on the SmartIC.II module.

Insert the positive pole cable (red cable) through the hole of the **SMART.IC II S2** or **S2GPRS** module.

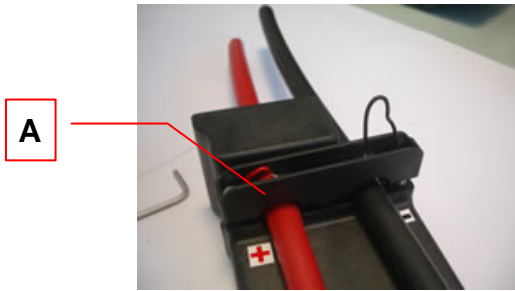
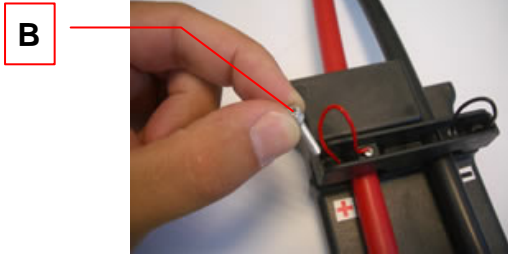
Note: if the push-rods are not able to punch the cable sheath because of its thickness, use the supports (B) on issue and position them into their seats, as shown in the picture to the left.

A) Module **SMART.IC II S2** or **S2GPRS**

B) Distance spacer P882C



1B stage



Press on the cable clamp so that the push-rods punch completely the cable sheath.

Make sure that the insulating material has been punched by the two push-rods on the bottom (**after approx. 30 seconds** the red LED will begin flashing signalling “**Low Battery**”).

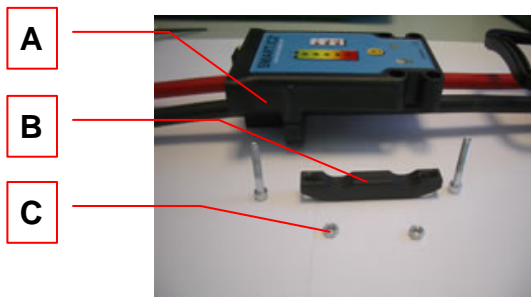
Secure the cable clamp (A) by means of the (4x20mm) socket head screws (B) on issue (V10 code).

Insert the input wires inside the cable clamp bay, so that they are not damaged when closing the cable clamp.

Put the cover onto the cable clamp (C), and secure it by means of the 3.5x16 mm screw on issue (V4 code).

- A) Cable clamp P882A
- B) Cable clamp cover P882B

1C stage



SmartIC II installation on cables:

Secure the (B) cable clamp collar to the (A) module with the (C) screws.

SMART.IC II S2 or S2GPRS module

Cable clamp for a 25 mm cable (code **P882C25**) or for a 70 mm cable (code **P882C70**)

4 (4x20) nuts (V10 code)

1D stage



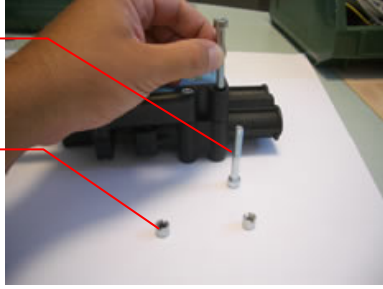

SmartIC II installation on connector:

Secure the (A) module on the (B) connector by means of the socket head screws (C) on issue.

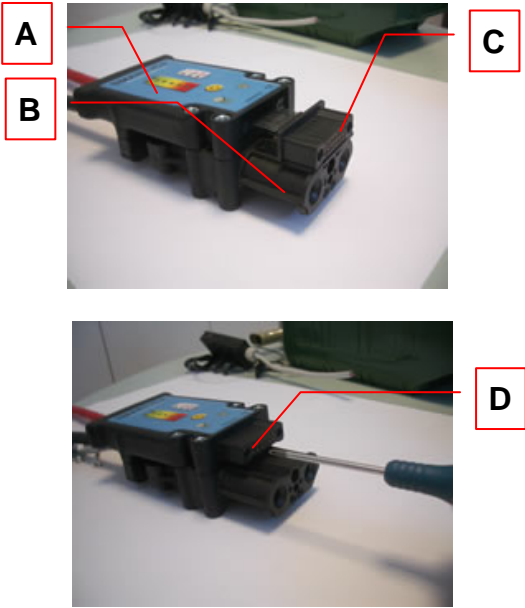
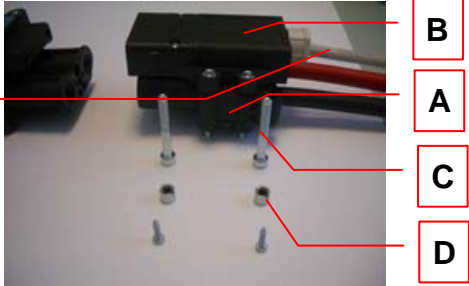
SMART.IC II S2 or S2GPRS module

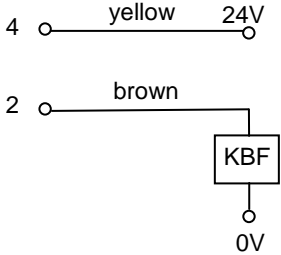
DinXXX type connector

4 (6x45) screws for a **160A** connector (V7)

 <p>C</p> <p>D</p>	<p>code) or 4 (6x50) screws for a 320A connector (V8 code) 4 (6MA) cylindrical nuts (D2 code)</p>
<p>1E stage</p>	
	<p>Wiring performed and connector ready to use.</p> <p>DIN-type 160A or 320A connector SMART.IC II S2 or S2GPRS module</p>

1.2 Forklift truck control mode (for DINxxx-type connector)

<p>1F stage</p>	
 <p>A</p> <p>B</p> <p>C</p> <p>D</p> <p>E</p>	<p>Remove the (C) cover, insert the (D) connector into its seat inside the (A) module and secure it by means of the 2 screws on issue (E).</p> <p>SMART.IC II S2 or S2GPRS module DIN-type 160A or 320A connector Cover (P882CU code) Connector with auxiliary contacts (KAP882CO code) 2 (3.5x13) countersunk screws (V2 code)</p>
<p>1G stage</p>	
 <p>E</p> <p>B</p> <p>A</p> <p>C</p> <p>D</p>	<p>Secure the connector of the forklift truck already wired (A) onto the auxiliary connector (B) with the 4 (C) screws and (D) nuts on issue.</p> <p>Connect the (E) auxiliary cable to the forklift truck following the wiring diagram enclosed.</p> <p>DIN-type 160A or 320A connector Auxiliary connector (KAP883E code)</p>

	<p>4 (6x35) screws for each 160A connector (V6 code) or 4 (6x45) screws for each 320A connector (V7 code) 4 (6MA) cylindrical nuts (D2 code) A (12x0.5) cable (CV12) for connection to the forklift truck system. Connections as shown in TC1 / TC2 table.</p>
1H stage	
 <pre>graph TD 24V((24V)) --- yellow((yellow)) yellow --- 4((4)) 4 --- brown((brown)) brown --- 2((2)) 2 --- KBF[KBF] KBF --- 0V((0V))</pre>	<p>Wiring of the auxiliary relay for FORKS LOCK (KBF). Connect the 12x0.5 cable (CV12) as shown in the diagram to the left.</p>

2 Assembly on battery-side USA-type connector

2.1 Battery monitoring (S2 / S2GPRS)

Material required:

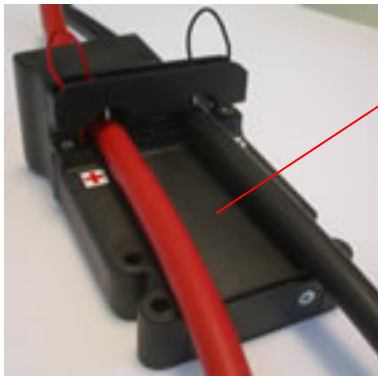
1 turn screwdriver (PH1-type)

2A stage

Connector side



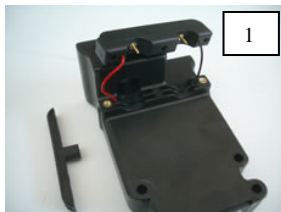
Battery side



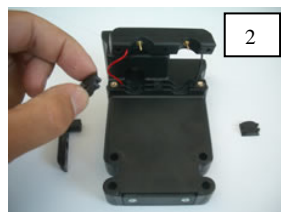
A



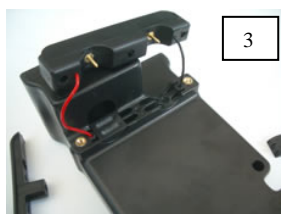
B



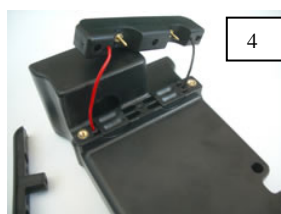
1



2



3



4

Identify battery and connector side on the SmartIC.II module.

Insert the positive pole cable (red cable) through the hole of the **SMART.IC II S2** or **S2GPRS** module.

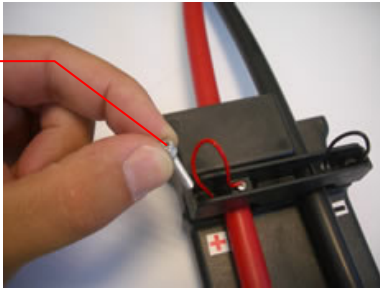
Note: if the push-rods are not able to punch the cable sheath because of its thickness, use the supports (B) on issue and position them into its seat, as shown in the picture beside.

A) **SMART.IC II S2** or **S2GPRS** module

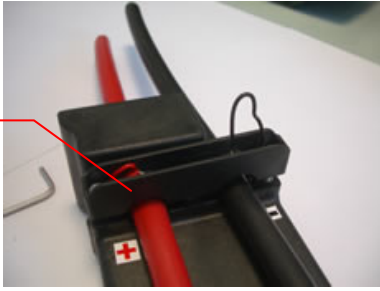
B) Distance spacer P882C

2B stage

B



A



C



Press on the cable clamp so that the push-rods punch completely the cable sheath.

Make sure that the insulating material has been punched by the two push-rods on the bottom (**after approx. 30 seconds** the red LED will begin flashing signalling “**Low Battery**”).

Secure the cable clamp (**A**) by means of the 4x20 mm socket head screws (**B**) on issue (**V10 code**).

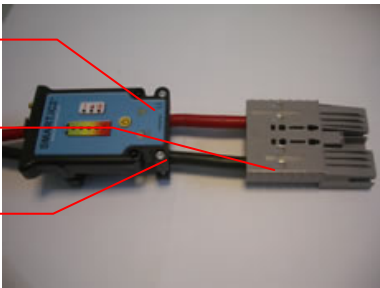
Insert the input wires into the cable clamp bay, so that they are not damaged when closing the cable clamp.

Close the cable clamp by means of its cover (**C**), securing it with the 3.5x16 mm screw on issue (**V4 code**).

- A) Cable clamp P882A
- B) Cable clamp cover P882B

2C stage

A



B



C



SmartIC II installation on cables:

Secure the (**B**) cable clamp collar to the (**A**) module with the (**C**) screws.

Make sure that the insulating material has been punched by the two push-rods on the bottom (**after approx. 30 seconds** the red LED will begin flashing signalling “**Low Battery**”).

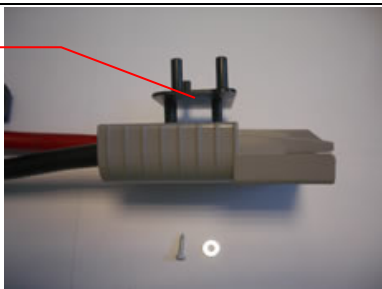
SMART.IC II S2 or S2GPRS module

Cable clamp for a 25 mm cable (code **P882C25**) or for a 70 mm cable (code **P882C70**)

4 (4x20) screws

2D stage

C



SmartIC II installation on USA-type connector:

Connect the (**A**) battery connector by fixing the + and – cables to the main plugs.

Secure the (**A**) connector on the (**B**) module by placing the (**C**) adapter block between them, secured with the 4 (**F-H**) screws and

<p>A</p> <p>F - G</p> <p>D - E</p> <p>C</p>	<p>(G-I) washers. Tighten the (D) cable clamp collar by means of the (F) screws.</p> <p>USA-type 160A or 320A connector SMART.IC II S2 or S2GPRS module Adapter (P882EU code) 4 (3.15x16) screws for a 160A connector (V7 code) or 4 (6x50) screws for a 320A connector (V8 code) 4 (3.5x13) screws for a 150A connector (V3 code) or 3.15x16 for a 320A connector (V4 code). 4 (4x12) washers (R2 code)</p>
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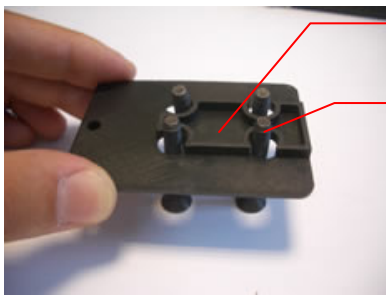
2E stage

<p>B</p> <p>A</p>	<p>Wiring performed and connector ready to use.</p> <p>USA-type 160A or 320A connector B) SMART.IC II S2 or S2GPRS module</p>
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2F stage

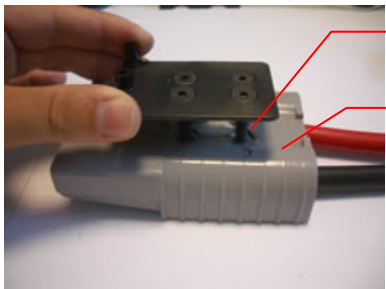
<p>A</p> <p>B</p> <p>C</p> <p>E</p>	<p>Remove the (C) cover, insert the (D) connector into its seat inside the (A) module and secure it with the 2 (E) screws on issue.</p> <p>SMART.IC II S2 or S2GPRS module USA-type 160A or 320A connector Connector with auxiliary contacts (KAP882CO code) 2 (3.5x13) countersunk screws (V2 code)</p>
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2G stage



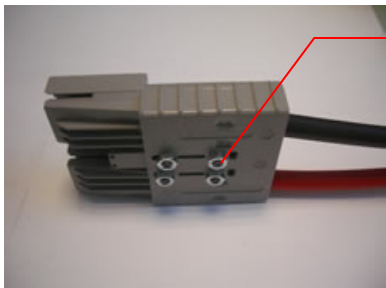
C

D

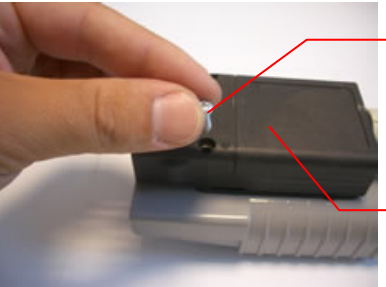


B

A



E



G

F

Secure the **(C)** adapter block to the **(A)** connector putting the **(B)** washers between them, if necessary.

Secure all components with the **(D)** screws and **(E)** nuts.

Insert the **(F)** auxiliary connector into the **(C)** adapter, securing it with the **(G)** screws.

USA-type 160A or 320A connector

4 6mm-Ø washers **(R3)** code)

Adapter for a 160A connector (code **P883U160**) or for a 320A connector (code **P883U320**)

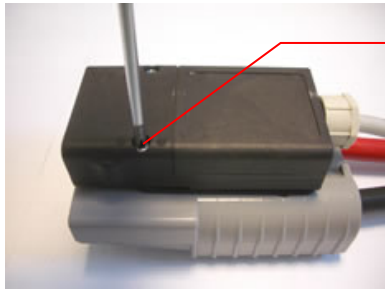
4 (6x35) countersunk screws for a **160A** connector **(V9)** code) or 6x45 for a **320A** connector **(V10)** code)

4 (M6) nuts **(D3)** code)

KAP883U auxiliary connector

2 (3.5x16) screws **(V4)** code)

12x0.5 cable **(CV12)** for connection to forklift truck. Connections as per table **TC1 / TC2**.

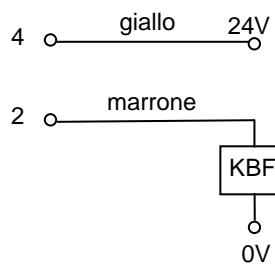


G



H

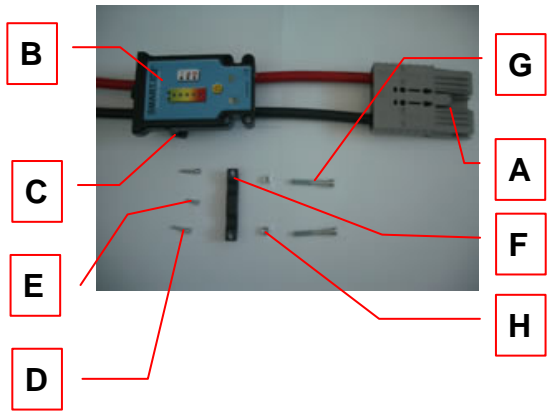
2H stage



Wiring of the **auxiliary relay for FORKS LOCK (KBF).**

Connect the 12x0.5 cable (**CV12**) as shown in the diagram to the left.

3 Out-of-connector assembly (battery side)



Insert the positive cable (red cable) through the hole of the **SMART.IC II S2** or **S2GPRS** module.

Secure the **(C)** cable clamp collar to the **(B)** module with the **(D)** screws.

Make sure that the insulating material has been punched by the two push-rods on the bottom (**after approx. 30 seconds** from connection to battery the red LED will begin flashing signalling “**Low Battery**”).

Secure also the battery cables to the **(B)** module through the **(E)** cable clamp collar with the **(F)** screws and **(G)** nuts.

DINxxx- or USA-type connector

SMART.IC II S2 or **S2GPRS** module

Cable clamp for a 25 mm cable (**P882C25** code) or for a 70 mm cable (**P882C70** code)

2 (4x20) screws for cable clamp (**V5** code)

1 (3.5x16) screw for cable clamp cover (**V4** code)

Cable clamp (**P882B** code)

2 (5x30) screws for cable clamp (**V5** code)

2 5MA nuts (**D1** code)

4 Antenna installation

Needed material:

- wrench no. 8
- locking clamps

4A stage



Identify the antenna connector on the back of Smart.IC II.

4B stage



Screw the antenna connector on the back of Smart.IC II.

Tighten slightly the connector by means of a wrench no. 8.

4C stage



Place the antenna on the forklift truck, on a ferrous part, preferably on an area not screened by metal parts.

The antenna base is made up of a magnet, which makes the antenna positioning easier.

4D stage



Tenter the antenna cable along battery cables.

Secure the antenna cable by means of locking clamps, avoiding to put it under traction on the Smart.IC II connector. (Leave a generous antenna cable length between connector and first locking clamp).

Sometimes it's advisable to wrap the antenna cable onto a battery cable by means of a tape.

Note: make sure that the antenna cable, once placed in its position, is not damaged by the closing body or any other mechanical component of the forklift truck.