

Passenger Interface

Charge. Connect. Communicate.

www.eao.com/passenger-interface



The Connected Passenger

Charge. Connect. Communicate.

In our digital world the ability to connect people, smart devices and machines is a prerequisite to flawlessly access information and services.

Passenger Interface is a transformational technology innovation uniquely designed for public transport passengers. It will help your passengers' electronic devices to stay powered and connected providing opportunistic charging throughout their journey and beyond – remaining stress free with no low battery anxiety and without the need to carry cables and chargers.

Passengers' journey experience will be enhanced through the peace of mind and the convenience of their "own" secure phone charger.

The Passenger Interface is easy and intuitive to use. The innovative iBeacon technology can be integrated with the train operator's app to provide tailored passenger information, smart ticketing and on-board services personalised to

the customer. The technology can be used to gain passenger insight and enhance the general passenger journey experience.

The Passenger Interface will broaden the role of public transport operators towards digital service technology providers to deliver additional value for their customers.

EAO, a leading supplier to the global rail industry, has continuously designed and supplied project solutions to train builders and operators since 1947. Reliable products, extended warranties and long-term spares availability make EAO your expert partner for HMI.

Further information is available at <http://eao.com/passenger-interface>

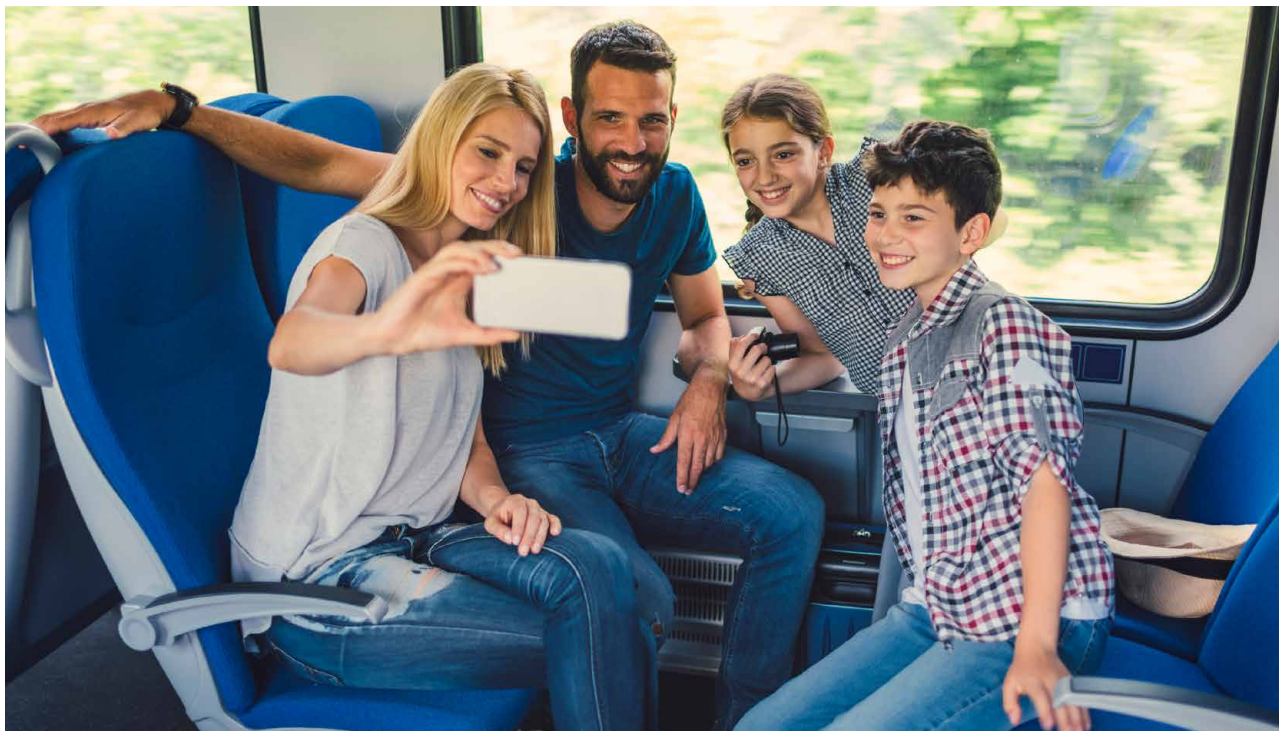




Table top charger.

Seatback holster charger.



Passenger Interface

Charge, connect, communicate.

The fully railway certified Passenger Interface enables passengers to access additional services, charge their phones during the journey and enables train operators to provide them tailored content.

The connected passenger

Passengers use their mobile phones for entertainment, information and for their personal security. They value on-board charging as well as connectivity to the internet, their friends, family and colleagues as important factors in the quality of their passenger experience. Intensive use means that mobile phones will often lose charge on a journey and phone charger cables can be lost, get broken or simply forgotten and this can add to travellers' stress and cause low battery anxiety.

Every charger can incorporate the innovative iBeacon technology that transmits a unique ID to locate the vehicle and seat position for smart ticketing, on-board passenger information and for tailored marketing messages*.

The future is wireless



Modern phones can be wirelessly charged through the Qi inductive charging system for iOS and Android phones. The majority of new phones released after 2017 have built-in inductive wireless chargers, but the location of the small charger receiver within the phone is not standardised and until now they needed to be precisely placed on the charging transmitter.

The Passenger Interface is a range of mobile phone charging products that can give every passenger access to convenient, reliable phone charging. The Passenger Interface includes both Qi wireless chargers and also a standard USB-A socket. The multi-coil charger overcomes issues with phone placement on the inductive charging transmitter.

The Passenger Interface comes in four standard variants; customised versions are also possible:

- Seatback mounted multi-coil charger in metal holster with secure soft-touch phone clamp and USB socket
- Seatback SliderFLEX version for portrait/landscape viewing with USB charging socket
- Table top, round single coil charger for mounting in a table with separate table edge USB socket (via a custom cable and mounting bracket)
- Rectangular multi-coil charger with USB socket for flexible design integration options

*Subject to app development and cloud based service fees for the operator.

The iBeacon Concept

Know your customer, know their location.

The iBeacon technology in the Passenger Interface allows train operators to know the passenger's seat and carriage location during the journey.

It's all about the app

When a passenger uses Passenger Interface to wirelessly charge their phone, the Bluetooth Low Energy (BLE) iBeacon is activated and starts sending its unique ID. The passenger's smartphone, recognises the iBeacon and through the operator App, with the EAO API integrated (*) sends this ID together with the operator ID to the Passenger Interface Cloud.

The Passenger Interface Cloud translates this information into the seat/coach/train ID where the Passenger Interface is located and sends back train, carriage and position ID to the operator's cloud. At this point the seat location of the passenger (seat/coach/train) is made known to the Operator and the communication with the passenger is established through the app installed on his smartphone.

Passengers using USB charging will need to simply touch their phones once onto the charger unit to activate the iBeacon and launch the app.

Improve your customers journey experience

Get closer to your customers – develop your app and on-board systems to provide tailored passenger information, smart ticketing, trolley service requests, on-board services, and to deliver targeted marketing messages.

Get the edge, stay ahead

Passengers often have a choice between different train operators, and between travel modes. Keep them charged, keep them connected, keep them coming back!

* Subject to app development and cloud based service fees for the operator.



Benefits to the train operator.

- Clear enhancement to the passenger experience and the operator's image
- Can be retrofitted during refurbishment or as a separate upgrade
- The SliderFLEX and holster accept most modern smart phones
- Can be branded with the service operator's or sponsor's logo
- Additional revenues through tailored passenger services

Improve passenger experience while generating revenue

The iBeacon links the seat position to the individual passenger through the operator's app. Realise opportunities for smart ticketing, trolley services, tailored passenger information and targeted marketing messages to generate revenue and drive customer loyalty.

Refurbish and retrofit

With both a seatback (holster or SliderFLEX version) and a table top version EAO can work with seat and table partners to produce interface plates and tailor the product design to fit and match to the train operators seats and tables. The holster can also be fitted to grab poles and partitions for high density commuter applications.

Gather data – gain insight

Analyse passenger behaviour, monitor trends and drive service improvements through better customer knowledge.

Seatback holster version

Aluminium housing with secure, nylon spring clip holder



Seatback SliderFLEX

Aluminium housing with sliding clamp



Table top single coil version



Rectangular multi-coil version



Accessories

Connection cables and rail industry approved AC/DC or DC/DC power supplies with IP40 or IP65 sealing are available for easy installation.

The Table Top Adapter allows the round single coil version to be mounted in to the table from the top.

Top Loading Adapter



Four USB Output Power Supply



Benefits to the passenger.

- Charge phone without inconvenience of carrying plugs and cables
- Opportunistic charging to avoid 'low battery anxiety'
- Access to additional on-board services during journey
- Profit from tailored promotional offers during and after the journey

Passenger information and trolley services

Using the operator's app, passengers can get travel updates, request food and drink trolley services and profit from targeted marketing messages about added value services.

Convenient, reliable, available

The Passenger Interface offers convenient charging with, or without a USB cable, providing a charging service wherever the passenger is seated. The seatback holster and SliderFLEX gently, but securely hold the phone in place whilst still showing up to 90 % of the screen area.

Ticketing

The iBeacon can link the passenger's phone to their seat position in the train operator's app, so that with smart ticketing there is no need to present their ticket.*

Charge it and use it

No need to conserve power, passengers can continue to use their phones whilst they are provided with opportunistic charging. A second device can be charged simultaneously via USB. They can stay in touch and keep entertained without low battery anxiety.

**Subject to app development and cloud based service fees for the operator.*

Smart ticketing

Your phone is your ticket



Journey planning



Connect to the train operators app



Specifications and dimensions

Seatback SliderFLEX version.

Mechanical characteristics

- Durable powder coated standard RAL 9006 white aluminium (silver) or custom coloured housing
- Soft-touch, multi-coil charger
- Sliding cushioned phone clamp
- Micro USB-B power input and USB-A power output socket

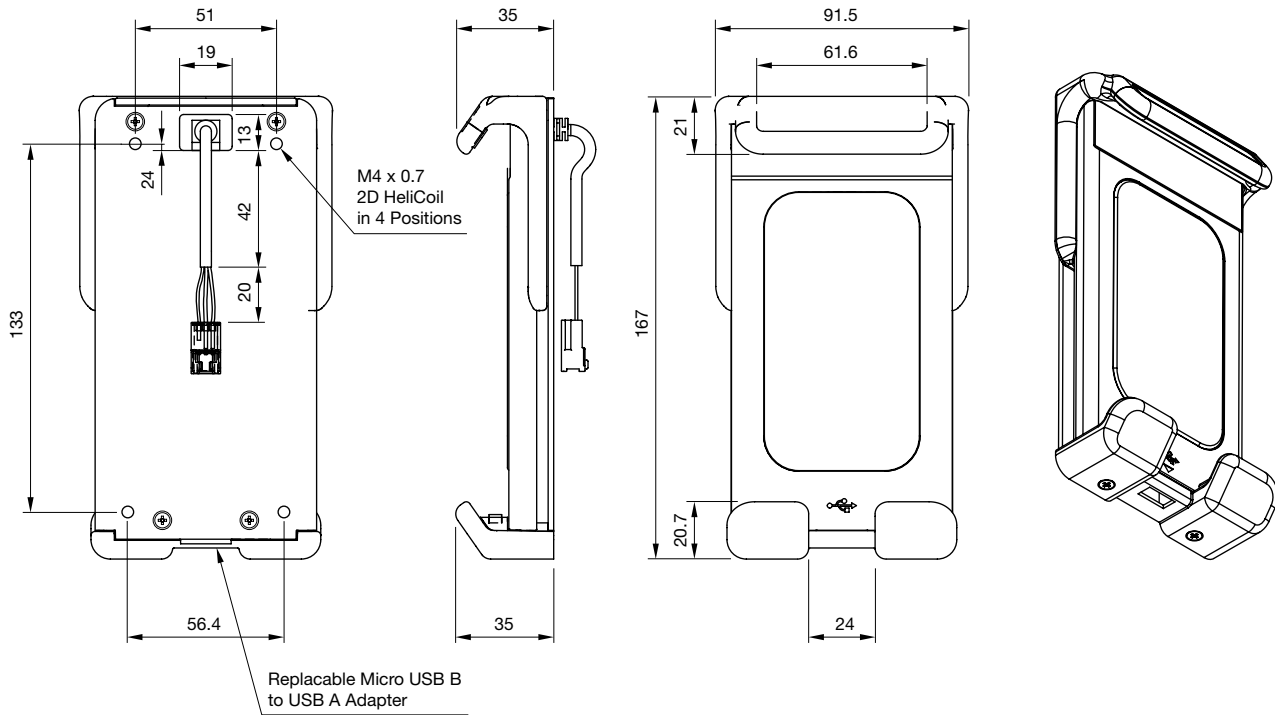
Electrical characteristics

- Power consumption 5W–10W, input voltage 5V +/- 0.25V
- Maximum output current (via USB-A) 1.0A
- Maximum Inductive charging current 1.0A

Standards and certifications

- Qi Certified
- EN 50121-3-2 Railway Apparatus and EN 62311 Human exposure EMC compliant,
- EN 61373 Rail vehicle vibration tested
- EN 45545-2 Fire protection of railway vehicle - Part 2

Dimensions (mm)



Name

Seatback SliderFLEX ibeacon
Seatback SliderFLEX

Part No.

PIF-01G-005-iB
PIF-01G-005

Specifications and dimensions

Seatback holster version.

Mechanical characteristics

- Durable powder coated standard RAL 9006 white aluminium (silver) or custom coloured housing
- Soft-touch, multi-coil charger
- Soft-touch nylon spring clip phone holder
- Micro USB-B power input and USB-A power output socket

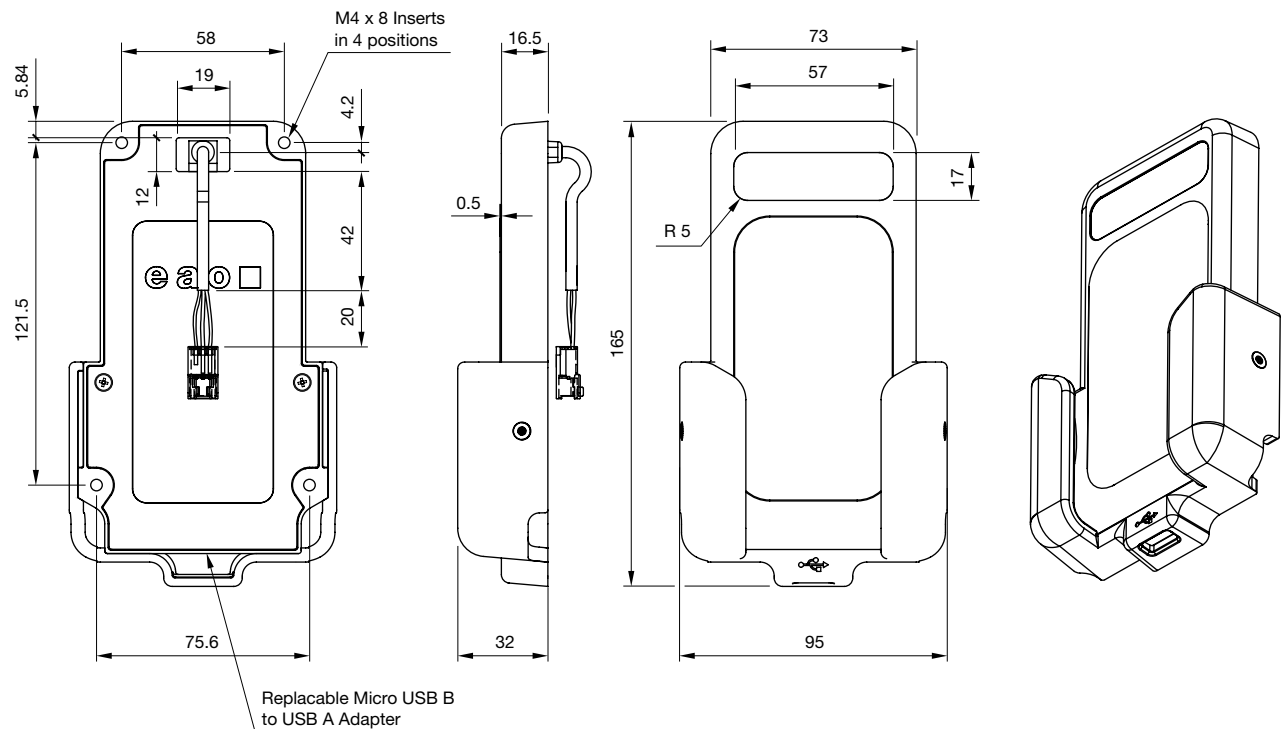
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- Power consumption 5W–10W, input voltage 5V +/- 0.25V
- Maximum output current (via USB-A) 1.0A
- Maximum Inductive charging current 1.0A

Standards and certifications

- Qi Certified
- EN 50121-3-2 Railway Apparatus and EN 62311 Human exposure EMC compliant,
- EN 61373 Rail vehicle vibration tested
- EN 45545-2 Fire protection of railway vehicle - Part 2

Dimensions (mm)



Name

Seatback holster iBeacon
Seatback holster

Part No.

PIF-01H-005-iB
PIF-01H-005

Specifications and dimensions

Round table top single coil version.

Mechanical characteristics

- Soft-touch rubber coated single coil charger
- Micro USB-B power input and output socket

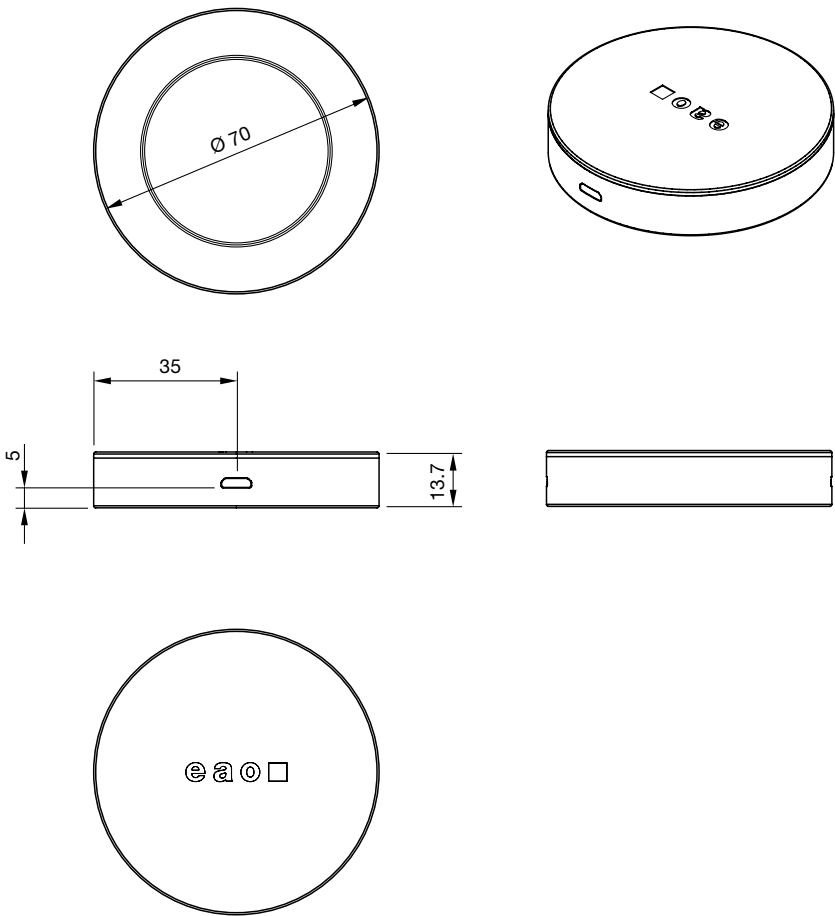
Electrical characteristics

- Power consumption 5W–10W, input voltage 5V +/- 0.25V
- Maximum output current (via Micro USB-B) 1.0A
- Maximum inductive charging current 1.0A

Standards and certifications

- Qi Certified
- EN 50121-3-2 Railway Apparatus and EN 62311 Human exposure EMC compliant,
- EN 61373 Rail vehicle vibration tested
- EN 45545-2 Fire protection of railway vehicle - Part 2

Dimensions (mm)



Name	Part No.
Round table top single coil iBeacon	PIF-02T-005-iB
Round table top single coil	PIF-02T-005

Specifications and dimensions

Rectangular multi-coil version.

Mechanical characteristics

- Soft-touch multi-coil charger
- Micro USB-B power input and output socket

Name

Seat rectangular multi-coil iBeacon
Seat rectangular multi-coil

Part No.

PIF-03S-005-iB
PIF-03S-005

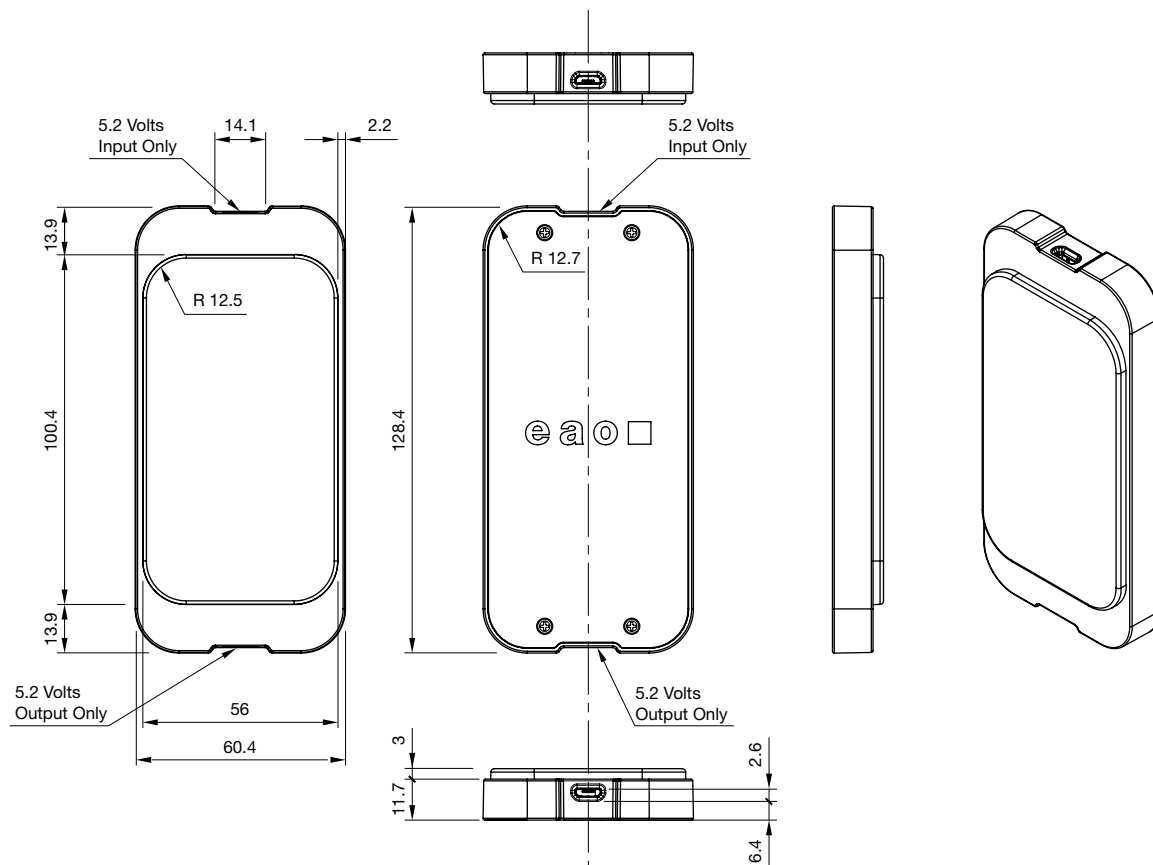
Electrical characteristics

- Power consumption 5W–10W, input voltage 5V +/- 0.25V
- Maximum output current (via USB-B) 1.0A
- Maximum Inductive charging current 1.0A

Standards and certifications

- Qi Certified
- EN 50121-3-2 Railway Apparatus and EN 62311
Human exposure EMC compliant,
- EN 61373 Rail vehicle vibration tested
- EN 45545-2 Fire protection of railway vehicle - Part 2

Dimensions (mm)



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