# Ahead in Shore Power

## CATALOGUE 2023

**ratio**

# A tradition in **innovation**

## POWERED BY SIMPLICITY

Ratio Electric develops, produces and sells electrical power connection and distribution systems. Our company is based in Holland and active throughout Europe. During half a century we gathered a huge amount of experience that is used to meet the latest demands in our markets. Doing so we built up a tradition in innovation with state of the art, reliable and affordable products. The products are delivered to OEM's or distributed by specialized wholesale companies, covering the following areas:

### Marine
Our Shore Power connection system is the marine standard all over Europe. The MP16/32/50 boat inlets and cables are stylish and safe. Every marine product is designed to be user-friendly and still able to withstand the rigors of life at sea.

### E-Mobility
Ratio Electric provides high quality AC connection and charging systems for electric and plug-in hybrid electric vehicles. All these products, such as charge stations, cables and components comply with the latest European standards.

### Industry and Office
We are an industry leading supplier of power cords, cord sets, power strips, power plugs, power connectors and other components. On request we also develop custom made power connections with required approvals.

### ICT
We are well acquainted with Data centers. Ratio Electric modular solutions for power distribution and power management in 19" racks can be found all over Europe. Our complete range of Power Distribution Units (PDU's) and power cords will normally suit your needs. When required we also produce custom made specific versions in small quantities.

# State-of-the-art
## Shore Power connections

In this catalogue you will find the best products to connect your boat with the power supply from shore. Every product we make is designed to be functional, practical and able to withstand the harsh marine environment. Boatyards and yachtmen all over Europe prefer state-of–the-art shore power products from Ratio Electric.

Ratio Electric develops innovative shorepower connections and power solutions for every type of boat.

Ranging from robust cables to stainless steel inlets. We also carry a vast range of stylish, functional and safe accessories.

# MP Shore Power system

**A waterproof, stylish and approved shore power connection system for your boat.**

## MP series Waterproof connection system

Ratio Electric has designed the MP 16 (16A/250V), MP32 (32A/250V) and MP50 (50A/250V) system to offer a waterproof, stylish and approved shore power connection system for your boat.

The system is based on the world standard for outdoor connections (IEC 60309) and features a boat inlet and a mating connector (moulded or assembled).
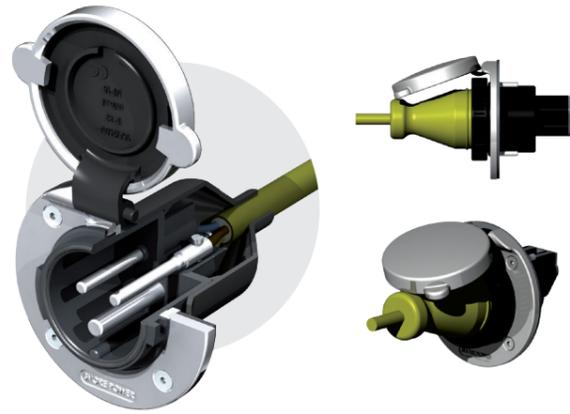
### Stainless steel inlet

The MP16, MP32 and MP50 inlets are made from solid cast marine grade 316 stainless steel and include an easy locking waterproof cap.

The requirements for installation of electrical systems on craft of hull length up to 24m are specified in the ISO13297 standard. MP16, MP32 and MP50 inlets will not accept standard CEE couplers.

### Cable connectors

The MP16 and MP32 cable connectors are available in a moulded watertight version as well as an assembly (rewireable) type. The MP50 cable connector is only available in an assembly version. All types include a weatherproof sealing cap to ensure CE compliance.

**Moulded connector**
- LED power indication
- Watertight moulded construction
- 16A and 32A version

**Assembly connector**
- Weatherproof marine construction
- Easy assembly
- 16A, 32A and 50A version

# MP16 Shore Power system 16A/250V

### 16A/250V Stainless Steel Inlet
- Part no. MP16-10
- Marking: CE
- Waterproof: IP56
- Solid cast 316 stainless steel

### 16A/250V Polyamid Inlet
- Part no. MP16-10-K
- Marking: CE
- Waterproof: IP56
- Glass filled PA6

### 16A/250V chromed Inlet
- Part no. MP16-10-KX
- Marking: CE
- Waterproof: IP56
- ABS chrome plated

## MP16 Cord Sets
- Marking: CE
- Waterproof: IP44
- PUR cable (H07BQ-F)
- Watertight moulded plug and connector
- LED power indication

## 16A/250V Connector
- Part no. MP16-110
- Marking: CE
- Waterproof: IP44
- Recommended Cable:
- H07BQ-F 3G 1,50mm$^2$ and 3G 2,50mm$^2$

side view

| P/N | MP16 Cord Sets | Length | Max. rating |
|---|---|---|---|
| 2801 | MP16 Cord Set with H07BQ-F 3G 1,50mm$^2$ (PUR) Yellow cable | 15m | 10A |
| 2802 | MP16 Cord Set with H07BQ-F 3G 1,50mm$^2$ (PUR) Yellow cable | 25m | 10A |
| 2823 | MP16 Cord Set with H07BQ-F 3G 2,50mm$^2$ (PUR) Yellow cable | 5m | 16A |
| 2821 | MP16 Cord Set with H07BQ-F 3G 2,50mm$^2$ (PUR) Yellow cable | 15m | 16A |
| 2822 | MP16 Cord Set with H07BQ-F 3G 2,50mm$^2$ (PUR) Yellow cable | 25m | 16A |

# MP32 Shore Power system 32A/250V

## MP 32 Cord set

- Marking: CE
- Waterproof: IP44
- PUR Cable (H07BQ-F)
- Watertight moulded plug and connector
- LED power indication



front view                    side view

## 32A/250V Connector

- Part no. MP32-110
- Marking: CE
- Waterproof: IP44
- Recommended cable
- H07BQ-F 3G 4,00mm$^2$ and H07BQ-F 3G 6,00mm$^2$

## 32A/250V stainless steel inlet

- Part no. MP32-10
- Marking: CE
- Waterproof: IP56
- Solid cast 316 stainless steel

| P/N | MP32 Cord Sets | Length | Max. rating |
|---|---|---|---|
| 2836 | MP32 Cord Set with H07BQ-F 3G 4,00mm$^2$ (PUR) Yellow cable | 15m | 25A |
| 2832 | MP32 Cord Set with H07BQ-F 3G 4,00mm$^2$ (PUR) Yellow cable | 25m | 25A |
| 2837 | MP32 Cord Set with H07BQ-F 3G 6,00mm$^2$ (PUR) Yellow cable | 15m | 32A |
| 2838 | MP32 Cord Set with H07BQ-F 3G 6,00mm$^2$ (PUR) Yellow cable | 25m | 32A |

# MP32 Shore Power system 50A/250V

## MP 50 Cord set (assembly type)

- Marking: CE
- Watertight assembled plug and connector
- PUR Cable (H07BQ-F)
- MP50-110 Connector and 63A blue CEE plug



front view                    side view

## 50A/250V Connector

- Part no. MP50-110
- Marking: CE
- Waterproof: IP44
- Recommended cable H07BQ-F 3G 10mm$^2$ (max. 25m)

## 50A/250V stainless steel inlet

- Part no. MP50-10
- Marking: CE
- Waterproof: IP56
- Solid cast 316 stainless steel

| P/N | MP50 Cord Sets | Length | Max. rating |
|---|---|---|---|
| 2851 | MP50 Cord Set with H07BQ-F 3G 10,00mm$^2$ (PUR) Yellow cable | 15m | 50A |
| 2852 | MP50 Cord Set with H07BQ-F 3G 10,00mm$^2$ (PUR) Yellow cable | 25m | 50A |

Wall socket flush

Electrical cabinet

Wall socket IP5

Shore Power inlet

Shore Power cord set

Internal cable

Cable splitter

Wall socket IP6

Galvanic isolator

# AC16 Shore Power System

The Ratio Electric AC16 Power System provides a complete plug & play shore power and battery charger system for boats. The system is flexible and easy to extend or modify. All components use snap-in connections for easy installation.

### AC16 power system components

| P/N | Inlet with Cord | Max. rating |
|---|---|---|
| AC 16-01 | Stainless Steel Inlet | 16A |
| AC 16-01-K | Polyamid Inlet | 16A |
| AC 16-01-KX | Chrome plated Inlet | 16A |

| P/N | Inlet with Cord | Max. rating |
|---|---|---|
| AC 16-03 | Electrical Cabinet BASIC | 1xRCBO 30mA/16A |
| AC 16-13 | Electrical Cabinet PRO | 3xRCBO 30mA/16A |

# AC16 Shore Power System

### Internal cable

| P/N | Internal Cable | Length | Max. rating |
|---|---|---|---|
| AC16-02-1 | Internal Cable H07RN-F 3G 2,50mm$^2$ | 1m | 20A |
| AC16-02-2 | Internal Cable H07RN-F 3G 2,50mm$^2$ | 2m | 20A |
| AC16-02-3 | Internal Cable H07RN-F 3G 2,50mm$^2$ | 3m | 20A |
| AC16-02-4 | Internal Cable H07RN-F 3G 2,50mm$^2$ | 4m | 20A |
| AC16-02-5 | Internal Cable H07RN-F 3G 2,50mm$^2$ | 5m | 20A |

### Wall socket IP55

| P/N | Wall Socket IP55 | Max. rating |
|---|---|---|
| AC16-07-1 | Wall Socket 1-way IP55 | 16A |
| AC16-07-2 | Wall Socket 2-way IP55 | 16A |

### Wall socket flush

| P/N | Wall Socket Flush | Max. rating |
|---|---|---|
| AC16-17 | Wall Socket 1-way FLUSH white | 16A |
| AC16-18 | Wall Socket 1-way FLUSH black | 16A |
| AC16-19 | Wall Socket 1-way FLUSH brown | 16A |

### Wall socket IP56

| P/N | Wall Socket IP56 | Max. rating |
|---|---|---|
| AC16-23 | Wall Socket IP56 | 16A |

## Galvanic isolator

| P/N | Galvanic Isolator | Max. rating |
|---|---|---|
| AC16-20 | Galvanic Isolator | 16A |
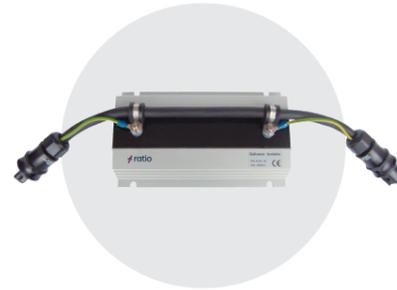
## Splitter

| P/N | Splitter | Max. rating |
|---|---|---|
| AC16-06 | Splitter 1:3 | 16A |

## Basic Kit

The AC Power System is also available as the AC16 Basic Kit (p/n AC16 BASIC). Including:

| P/N | Description |
|---|---|
| 2801 | Shore Power Cord Set 15m |
| AC16-01 | Stainless Steel Inlet with cord |
| AC16-03 | Electrical Cabinet |
| AC16-02-1 | Internal Cable 1m |
| AC16-02-2 | Internal Cable 2m |
| AC16-07-2 | Wall Socket 2-way IP55 |

# MP16 Shore Power Kit



Complete Shore Power System for small boats. 10A/250 Vac.

## Mp16 shore power kit

- MP16 Shore Power Kit includes:
- MP16 Inlet. Stainless Steel, Polyamid or Chromed version.
- MP16 Cordset, 10A/250V, lenght 10m (p/n 2803)
- Electrical Cabinet Single

| P/N | Description |
|---|---|
| MP16-Kit | MP16 Kit Stainless Steel Inlet |
| MP16-K-Kit | MP16 Kit Polyamid Inlet |
| MP16-KX-Kit | MP16 Kit Chromed Inlet |
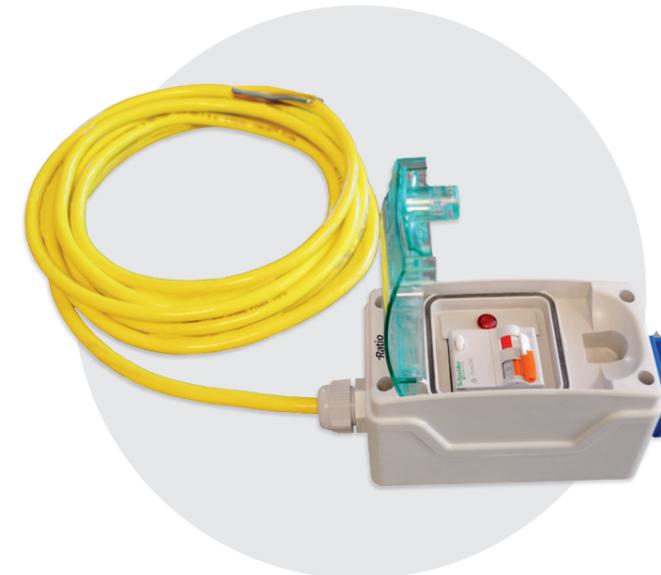
## Electrical cabinet

- Circuitbreaker 16A
- Earth leakage protection 30mA
- LED Power indication
- Schuko outlet
- IP65 Housing

| P/N | Description |
|---|---|
| 70051 | Electrical Cabinet Single (1x Schuko outlet) |
| 70052 | Electrical Cabinet Dual (2x Schuko outlet) |

# Shore Power Cord Sets



## Marinco compatible cord sets 16A/250V

- Moulded 3-pin CEE plug
- Moulded Marinco compatible plug
- Threaded locking ring
- Weatherproof protection cap
- LED power indication
- Marking: CE

Nema L5-30
Marinco MCP16 Cord Set

| P/N | Marinco Compatible Cord Sets | Length | Max. rating |
|---|---|---|---|
| 2811 | MCP16 Cord Set with H07BQ-F 3G 2,50mm² (PUR) Yellow cable | 15m | 16A |
| 2812 | MCP16 Cord Set with H07BQ-F 3G 2,50mm² (PUR) Yellow cable | 25m | 16A |



## CEE extension cord sets 16A/250V

- Moulded 3-pin (male) CEE plug
- Moulded 3-pin (female) CEE connector with weatherproof protection cap and LED power indication
- Marking: CE

| P/N | CEE Extension Cord Sets | Length | Max. rating |
|---|---|---|---|
| 2834 | CEE16 Cord Set with H07BQ-F 3G 2,50mm² (PUR) Yellow cable | 15m | 16A |
| 2835 | CEE16 Cord Set with H07BQ-F 3G 2,50mm² (PUR) Yellow cable | 25m | 16A |

# Shore Power Cable
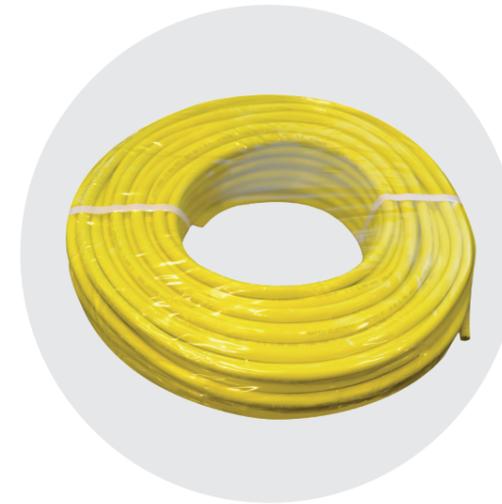


Ratio Electric uses PUR (H07BQ-F) cable for all its cord sets.
The same cable can also be supplied on 50m rings.
PUR cable offers the best available features for boat owners.

## Shore Power cable 50m ring

- Good resistance to oil and other chemicals
- Extremely robust and noted for its good tear and abrasion resistance
- Suitable for outdoor use and resistant to UV radiation, ozon and oxygen
- Approval: KEMA
- Marking: H07BQ-F

| P/N | Description | Max. rating |
|---|---|---|
| 70030 | Shore Power H07BQ-F 3G 1,50mm² (PUR) Yellow cable | 10A |
| 70031 | Shore Power H07BQ-F 3G 2,50mm² (PUR) Yellow cable | 16A |
| 70032 | Shore Power H07BQ-F 3G 4,00mm² (PUR) Yellow cable | 25A |
| 70033 | Shore Power H07BQ-F 3G 6,00mm² (PUR) Yellow cable | 32A |
| 70034 | Shore Power H07BQ-F 3G 10,00mm² (PUR) Yellow cable | 40A |

# Outlet Socket IP56

Schuko outlet socket for exterior applications.

## Socket IP56

- Part no.: MP16-230
- Material: solid cast 316 stainless steel
- Waterproof: IP56
- Marking: CE
- Rating: 16A/230V

The Schuko socket is a high quality in-wall outlet designed for outdoor use. The high-gloss polished stainless steel cap and flange garanty a long lasting stylish look.

When the bayonet cap is closed the outlet is protected against water ingress (IP56).

## Socket IP56SQ

### 16A/250V
### Stainless Steel Inlet

- Part no. MP16-10
- Marking: CE
- Waterproof: IP56
- Solid cast 316 stainless steel

# Powerful Performance.
# Powerful Products.

# Shore Power Accessoires

Loose power cords on the dock and on the deck can create dangerous situations.
The Shore Power Cord Clips from Ratio Electric helps you to increase safety on and around your boat.

## Shore Power cord dock clip

- Use on the edge of the dock or deck
- Keeps Powercords organised and out of the water
- Packaged as a set of 6 clips with stainless steel mounting screws
- Easy to install

- For cable H07BQ-F 3G 1,50 mm$^2$ p/n 70040
- For cable H07BQ-F 3G 2,50 mm$^2$ p/n 70041

## Shore Power cord rail clip

- p/n 70038
- Keeps your Power cord from the deckEasy clip on tube or wire rails
- Packaged as set of 6 clips
- For 16A cords
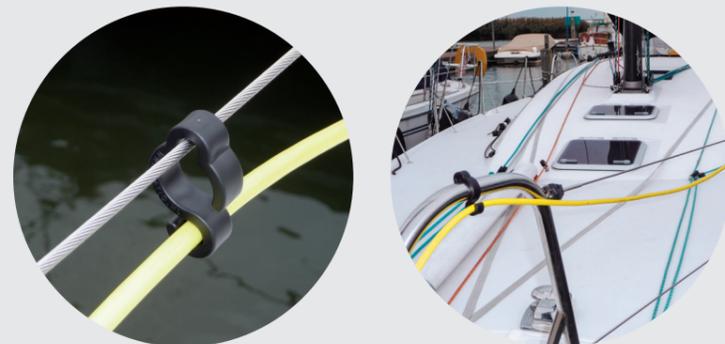
### Organiser bag



- Part no. 70021

### Adapter Cord Set 16A/250V



- Part no. 70022
- Length 0,30m

### Splitter Cord Set CEE 16A/250V



- Part no. 70024
- Length 0,50m

### Adapter Cord Set 16A/250V
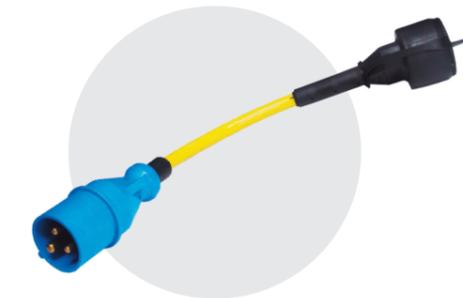


- Part no. 70026
- Length 0,30m

### Adapter Cord Set 16A to 32A/250V
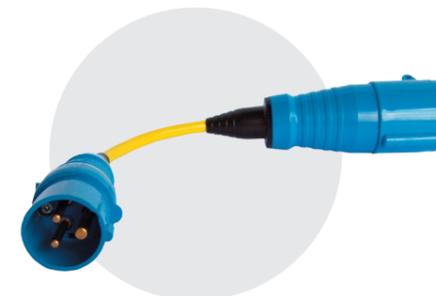


- Part no. 70035
- Length 0,50m

### Adapter Cord Set 32A 3-phase to single phase
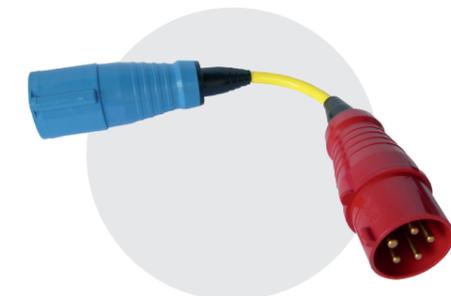


- Part no. 70036
- Length 0,50m

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While Shore Power solutions are still developing, we would welcome your comments and ideas on any adaptations to our excisting products as well as your useful suggestions for possible new products. Please send your comments to: info@ratio.nl

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