

*User friendly charging technology*



**Smart chargers  
Fiamm Motive Power  
Premium HF flex**

# Smart and flexible state of the art technology

## Premium HF flex

This new range of Fiamm Motive Power® high frequency chargers is the result of long expertise and constant study of the customer's needs and requirements. With the ability to communicate with the battery we can provide the optimal energy pack needed for all motive power applications.

### The optimal solution

#### Premium HF flex

This range is our premium brand and at the leading edge of smart technology. These three phase, multivoltage and multicapacity chargers are able to communicate with the battery through the Fiamm Motive Power energycom or easyplus, the electronic device located on the battery.

### Benefits of HF technology

Optimal availability for use and long service life can only be achieved from motive power batteries when the battery and the charger are perfectly matched.

#### The HF technology permits:

- Compact wall-mounted designs to save floor space
- Significantly higher electrical performances.

Thus the necessity for specific chargers is replaced by the capability of multicapacity and multivoltage (with the Premium HF flex).

#### The Premium HF flex charger adapts automatically to:

- Capacity of the battery
- Voltage of the battery
- Depth of discharge of the battery.

These factors plus high energy efficiency, very high and constant power factor, reduced overcharge factor and delayed start of charge deliver significant energy cost reductions.

#### Our HF charger ranges match all technologies of lead-acid batteries (vented, gas recombination: gel or AGM), especially for Fiamm Motive Power battery ranges:

- Fiamm Motive Power energy plus (vented batteries)
- Fiamm Motive Power energy plus with electrolyte circulation
- Fiamm Motive Power Water Less® (vented batteries)
- Fiamm Motive Power Water Less® with electrolyte circulation
- Fiamm Motive Power Water Less® 20
- Fiamm Motive Power energy dry (valve regulated batteries with gel electrolyte)
- Powerbloc/powerbloc dry (monoblocs for small traction)
- Fiamm Motive Power XFC™

And offer high performances, reliability and multipurpose use.



## Definition of application fields

### 1. Low duty

Single shift with light operation and discharge lower than 60% C<sub>5</sub>, electrolyte T°C about 30°C

### 2. Normal duty

Single shift with discharge up to 80% C<sub>5</sub>, electrolyte T°C 30°C

### 3. Heavy duty

- Single shift with discharges of 80% C<sub>5</sub> and high discharging currents
- Opportunity charging to augment the useable capacity
- Multi-shift operation with or without battery changes
- High ambient temperature

Fiamm Motive Power energy plus		
Fiamm Motive Power energy plus with electrolyte circulation		
Fiamm Motive Power Water Less®		
Fiamm Motive Power Water Less® with electrolyte circulation		
Fiamm Motive Power Water Less® 20		
Fiamm Motive Power energy dry		
Low duty	Normal duty	Heavy duty

# Capability of communication with the battery

## Premium HF flex

With the Fiamm Motive Power® energycom (Fiamm Motive Power energy dry batteries) or easyplus (flooded batteries) located on the battery, the Premium HF flex is capable of communication with the battery and can display the charge parameters for the last 100 charges.

### energycom or easyplus: electronic device

Automatic profile correction in relation to temperature, when used with Fiamm Motive Power energycom or easyplus, ensures correct charge profile to safeguard charging time and optimal service life.

### Main technical features

- High power factor and efficiency
- Optimal charge factor based on depth of discharge
- Temperature regulation (gel, flooded with or without electrolyte circulation)
- Memory of last 100 charges
- Menu:
  - Deferred start
  - Selection of equalization
  - Selection of charging profile
  - Temperature
  - Selection of cable length and section
  - Rest time of the battery
  - Electrically-operated valve (with control)



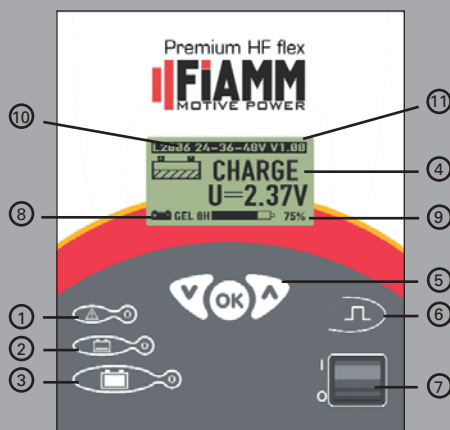
- **Charging status**  
(Incomplete Charge, Full Charge, Total Incomplete Charges, Total Full Charges)
- **Download of profiles on PDA through RS232**
- **Optional extras**
  - Red/green light
  - Automatic water topping up kit
  - Pneumatic electrolyte circulation pump kit
  - Download (profiles, memory) on PC, or printer

### Example of parameters stored by the charger

Nb	T°C	Cap	Batt. Serial Number	Techno-logy	U <sub>init</sub>	Ah+	U <sub>final</sub>	I <sub>final</sub>	State of charge Init	Status
1	22	600	AC56123	Gel	2.00	426	2.71	6	29	Complete
...										
100	30	520	AC12562	PbO	2.05	175	2.35	65	40	Disconnect

# Front Panels

## Premium HF flex chargers



Clear, easily understood indications of charge parameters on the LCD display for these multivoltage, 3-phase chargers

No.	Function
①	Red « Fault » light: permanently lit, flashing or unlit
②	Yellow « Battery on charge » light: permanently lit, flashing or unlit
③	Green « Battery available » light: permanently lit, flashing or unlit
④	Digital display
⑤	Parameter/memory menu
⑥	Desulphation button
⑦	Start (position I) and Stop (position 0) switch
⑧	Battery technology
⑨	State of charge
⑩	Type of charger – Available voltage
⑪	Software version

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