

Secure  
Power  
Solutions

# Industrial Batteries

**FIAMM**

Industrial Batteries





Asia Pacific  
ENGLISH

AGM VRLA			
FG	FGC	FGH	FGHL
AGM VRLA	AGM VRLA	AGM VRLA	AGM VRLA
FIAMM AGM batteries have optimized internal gas recombination and are maintenance free without topping up. They are non-spillable, non-hazardous for transportation and 100% recyclable			

- main application
- secondary application

application & usage	high rate UPS			●	●
	telecom				
	emergency, security, signaling & other UPS	●		●	●
	IT network & data centers	●		●	●
	industry & process controls				
	utilities				
	oil & gas / switchgear				
	leisure, toys & minor traction	●	●	●	●
	renewable energy storage	●	●		
	designed for use also at elevated temperature				
	unstable grid installation		●		
	off-grid installation	●	●		
technology & design	positive plate & electrolyte	flat plate electrolyte absorbed	flat plate electrolyte absorbed	flat plate electrolyte absorbed	flat plate electrolyte absorbed
	DIN type				
	target discharge profile	15min to 20h discharge		high rate	high rate
	deep discharge (DIN 43539T5 for VRLA)		✓		
	design life*	5 years	5 years	5 years	10 years
	maintenance	maintenance free	maintenance free	maintenance free	maintenance free
	Eurobat classification	Standard Commercial 3-5 years	Standard Commercial 3-5 years	Standard Commercial 3-5 years	High Performance 10-12 years
	nominal voltage	6V - 12V	12V	12V	12V
	capacity range	0.8 to 18 Ah	12 to 42 Ah	23 to 65 watts per cell	22 to 48 watts per cell
	design & installation	depending on model: faston, wire+connector or flag	depending on model: faston, flag or female	depending on model: faston or flag	faston terminals
	FV0 flame retardant plastics		optional		✓
	remote venting				

\* in float operation and temperature controlled environment






AGM VRLA			
SP	FLB	SLA	FIT
			
AGM VRLA	AGM VRLA	AGM VRLA	AGM VRLA
FIAMM AGM batteries have optimized internal gas recombination and are maintenance free without topping up. They are non-spillable, non-hazardous for transportation and 100% recyclable			

- main application
- secondary application

application & usage	high rate UPS		●	●	
	telecom	●		●	●
	emergency, security, signaling & other UPS	●	●	●	●
	IT network & data centers	●	●	●	●
	industry & process controls	●		●	
	utilities			●	●
	oil & gas / switchgear	●		●	
	leisure, toys & minor traction	●			
	renewable energy storage	●			
	designed for use also at elevated temperature				
	unstable grid installation	●			
	off-grid installation				
technology & design	positive plate & electrolyte	flat plate electrolyte absorbed	flat plate electrolyte absorbed	flat plate electrolyte absorbed	flat plate electrolyte absorbed
	DIN type				
	target discharge profile	15min to 20h discharge	high rate	high rate to long discharge	30min to 10h discharge
	deep discharge (DIN 43539T5 for VRLA)				
	design life*	> 10 years	12 years	>12 years	>12 years
	maintenance	maintenance free	maintenance free	maintenance free	maintenance free
	Eurobat classification	High Performance 10-12 years	High Performance 10-12 years	Long Life 12 years and longer	Long Life 12 years and longer
	nominal voltage	6V - 12 V	6V - 12 V	2V - 6V	12V
	capacity range	26 to 350 Ah	100 to 800 watts per cell	100 to 2000 Ah	40 to 180 Ah
	design & installation		very high energy density	very high energy density	front terminal for 19" and 23" cabinets
	FV0 flame retardant plastics	✓	✓	✓	✓
	remote venting	on selected models	on selected models		✓

\* in float operation and temperature controlled environment

# Industrial Batteries

GEL VRLA					
SPX	FTX	XL	SMG 12V	SMG	
					
GEL VRLA	GEL VRLA	GEL VRLA	GEL VRLA	GEL VRLA	GEL VRLA
FIAMM flat plate gel blocs for unstable grid application			FIAMM tubular gel batteries are designed for cycling and excellent temperature resistance		




- main application
- secondary application

application & usage	high rate UPS					
	telecom	●		●	●	●
	emergency, security, signaling & other UPS	●	●			●
	IT network & data centers	●	●			
	industry & process controls	●	●			●
	utilities					●
	oil & gas / switchgear		●			●
	leisure, toys & minor traction	●				
	renewable energy storage			●		
	designed for use also at elevated temperature		●	●	●	●
	unstable grid installation	●		●	●	●
	off-grid installation			●	●	
technology & design	positive plate & electrolyte	flat plate electrolyte in gel	flat plate electrolyte in gel	flat plate electrolyte in gel	tubular electrolyte in gel	tubular electrolyte in gel
	DIN type					DIN 40742 OPzV
	target discharge profile	15min to 20h discharge	30min to 10h discharge	30min to 10h discharge	1h to 10h discharge	1h to 10h discharge
	deep discharge (DIN 43539T5 for VRLA)	✓	✓	✓	✓	✓
	design life*	12 years	>12 years	>12 years	15 years	18 years
	maintenance	maintenance free	maintenance free	maintenance free	maintenance free	maintenance free
	Eurobat classification	High Performance 10-12 years	Long Life 12 years and longer	Long Life 12 years and longer	Long Life 12 years and longer	Long Life 12 years and longer
	nominal voltage	12V	12V	2 - 12V	12V	2V cells
	capacity range	26 to 235 Ah	90 - 180 Ah	60 to 1000 Ah	100 to 130 Ah	200 to 3000 Ah
	design & installation		front terminal for 19" and 23" cabinets	front terminal for top terminal	front terminal for 23" cabinets	vertical or horizontal installation
	FV0 flame retardant plastics	✓	✓	✓	✓	optional
	remote venting	on selected models	✓	✓	✓	

\* in float operation and temperature controlled environment



# Industrial Batteries

FLOODED		
SD / SDH	LM	SGL / SGH
		
Vented	Vented	Vented
FIAMM traditional batteries are available for high to long discharge application, also for use with unstable grid and deep discharge. Minimum maintenance and topping up is required		

- main application
- secondary application

application & usage	high rate UPS	●		●
	telecom		●	●
	emergency, security, signaling & other UPS	●	●	
	IT network & data centers	●	●	
	industry & process controls	●	●	●
	utilities	●	●	●
	oil & gas / switchgear	●	●	●
	leisure, toys & minor traction			
	renewable energy storage			
	designed for use also at elevated temperature			
technology & design	unstable grid installation	●	●	
	off-grid installation			
	positive plate & electrolyte	flat plate free electrolyte	tubular free electrolyte	Planté pure lead free electrolyte
	DIN type		DIN 40736 OPzS	DIN 40738 GroE
	target discharge profile	high rate to 10h discharge	1h to 10h discharge	high rate to 10h discharge
	deep discharge (DIN 43539T5 for VRLA)		✓	
	design life*	15 years	20 years	25 years
	maintenance	3 year topping up in float condition	3 year topping up in float condition	3 year topping up in float condition
	Eurobat classification			
	nominal voltage	2V cells	2V cells	2V cells
capacity range	80 to 2320 Ah	100 to 3500 Ah	75 to 2600 Ah	
design & installation	also available dry charged	also available dry charged	also available dry charged	
FV0 flame retardant plastics				
remote venting				

\* in float operation and temperature controlled environment

# Industrial Batteries

## RENEWABLE ENERGY

### LM Solar

### SMG Solar



Vented

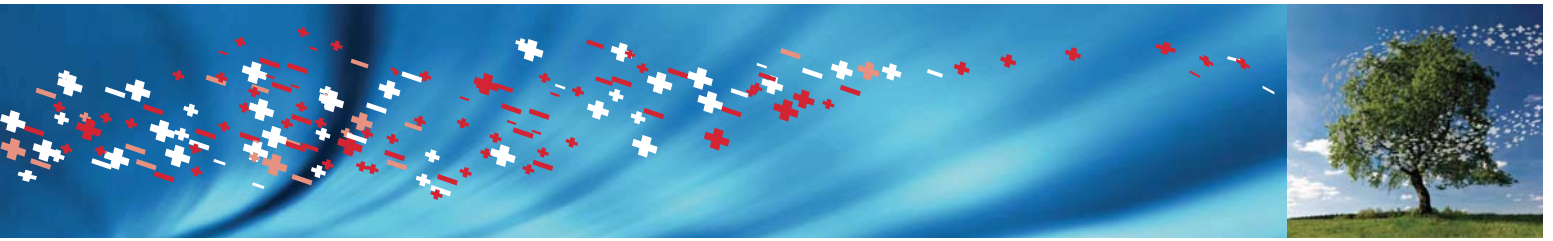
GEL VRLA



FIAMM Solar batteries are designed for use with renewable energy island and other off-grid applications

- main application
- secondary application

		LM Solar	SMG Solar
application & usage	high rate UPS		
	telecom	●	●
	emergency, security, signaling & other UPS	●	●
	IT network & data centers	●	
	industry & process controls	●	●
	utilities	●	●
	oil & gas / switchgear	●	●
	leisure, toys & minor traction		
	renewable energy storage	●	●
	designed for use also at elevated temperature	●	●
	unstable grid installation	●	●
	off-grid installation	●	●
technology & design	positive plate & electrolyte	tubular free electrolyte	tubular electrolyte in gel
	DIN type	DIN 40736 OPzS	DIN 40742 OPzV
	target discharge profile	up to 120h long discharge	up to 120h long discharge
	deep discharge (DIN 43539T5 for VRLA)	✓	✓
	design life*	20 years	18 years
	maintenance	3 year topping up in float condition	maintenance free
	Eurobat classification		Long Life 12 years and longer
	nominal voltage	2V cells	2V cells
	capacity range	150 to 5000 Ah	250 to 3800 Ah
	design & installation	also available dry charged	vertical or horizontal installation
	FV0 flame retardant plastics		optional
	remote venting		

\* in float operation and temperature controlled environment



SODIUM	
SoNick 48TL	SoNick RW
	
Sodium Nickel Chloride	Sodium Nickel Chloride
Energy storage devices with lowest cost of ownership and zero ambient emission, designed to operate in extreme temperature conditions	

- main application
- secondary application

application & usage	application	telecom	railway
	designed for use also at elevated temperature	●	●
	unstable grid installation	●	
	off-grid installation	●	
technology & design	technology	Sodium Nickel Chloride cells	Sodium Nickel Chloride cells
	target discharge profile	up to 12h discharge	up to 12h discharge
	deep discharge	✓	✓
	design life*	20 years at -20° to +60°C operation	20 years at -25° to +65°C operation
	maintenance	zero maintenance & remote monitoring	zero maintenance & remote monitoring
	interface	48TL80: RS 232 (option RS 485) others: RS 485 / USB / Ethernet / CAN-bus	CAN-bus
	applicable standards	- EN 61000-6-1 - CE - NEBS DA1976 Level 1 and Level 3 48TL120, 48TL160, 48TL200, 48TL160H: certified	Designed to comply with: - IEC 60571 / 61373 / 61571 / 61991 / 62236-3-1 - EN 50121-1 / 51121-3-1 / 51121-3-2 / 50126 / 50128 / 50129 / 50155:2007 - EN 60529 (IP65) - NFPA 130 - UL-1973
	nominal voltage	48V	110V
	capacity range	80 to 200 Ah	80 Ah
	energy density	70% lighter and 30% smaller than conventional technologies	70% lighter and 30% smaller than conventional technologies
	casing	double stainless steel case**	double stainless steel case
energy storage room	zero emission no venting required	zero emission no venting required	

\* in float operation

\*\* 48TL-H models: optimized insulation to guarantee lowest thermal loss and maximize the energy efficiency of the energy storage device

# FIAMM

Industrial Batteries

## FIAMM HEADQUARTERS

FIAMM S.p.A.  
Viale Europa, 75  
Montecchio Maggiore 36075 (VI)  
ITALY  
Tel +39 0444 709311  
Fax +39 0444 694178  
info.standby@fiamm.com

## SALES OFFICES

### EUROPE

FIAMM S.p.A.  
Viale Europa, 75  
Montecchio Maggiore 36075 (VI)  
ITALY  
Tel +39 0444 709311  
Fax +39 0444 694178  
info.standby@fiamm.com

### NORTH AMERICA

FIAMM Energy, LLC  
Battery Division  
1 Fiamm Way  
Waynesboro, GA 30830 - USA  
Tel +1 (706) 437-3220  
Fax +1 (706) 437-3300  
info.standby.america@fiamm.com

### LATIN AMERICA

FIAMM Latin America Ltda.  
Av. Piraporinha, 121  
CEP 09891-0000  
São Bernardo do Campo - SP - Brasil  
Tel +55 11 3737 6137  
Fax +55 11 3737 6116  
baterias.industriais@fiamm.com

### MIDDLE EAST & AFRICA

FIAMM S.p.A.  
Viale Europa, 75  
Montecchio Maggiore 36075 (VI)  
ITALY  
Tel +971 56 1016056  
Fax +39 0444 694178  
info.standby@fiamm.com

### ASIA PACIFIC

FIAMM ASIA PACIFIC Pte Ltd  
3B Toh Guan Road East #01-00  
Singapore 608833  
Tel +65 6867 6152  
Fax +65 68626550  
info.standby.asia@fiamm.com

### CHINA

FIAMM ENERTECH CO., LTD  
Hannan Road 458, Shamao Town  
Hannan District  
Wuhan City, Hubei Province, P.R. CHINA  
P.C. 430090  
Tel +86 27 84782000  
Fax +86 27 84782888  
info.standby.asia@fiamm.com

### MALAYSIA

FIAMM MALAYSIA SDN BHD  
No 13, Jalan TS 6/8,  
Taman Industri Subang,  
47510 Subang Jaya,  
Selangor Darul Ehsan.  
Tel +60 (3) -56312022/56312023  
Fax +60 (3) -56312025  
info.standby.asia@fiamm.com

### SOUTH KOREA

FIAMM Korea Co., Ltd  
202Ho, 627-5 Hopyeong-dong  
Namyangju-si, Gyeonggi-do, 472-120  
Seoul, South Korea  
Tel +31-563-0728  
Fax +31-567-7409  
info.standby.asia@fiamm.com

### JAPAN

FIAMM ASIA PACIFIC Pte Ltd (Japan office)  
TS Hodogaya Building 7C, 15-3 Iwai-cho  
Hodogaya-ku, Yokohama city,  
Kanagawa, Japan.  
240-0003  
Tel +81 45-336-3810  
Fax +81 45-336-3813  
info.standby.asia@fiamm.com