

Optimate

EU-EN
November 2015

The Battery Saving Charger

MORE BATTERY POWER

LONGER BATTERY LIFE

SAVE YOUR 'DEAD' BATTERY



GENERAL MAINTAINERS

POWER SPORT

AUTO & MARINE

LITHIUM

DC TO DC

 SOLAR



optimize1.com



Download the electronic version at www.tecmate.com/cat
Available in EN, FR, ES, DE, IT, NL and more.

Battery chargers with UK plugs:

AC powered battery chargers are delivered with the standard UK 3 pin plug with 13A fuse. The TMxxx part number is preceded by UK : e.g. UK : TM422.

European 2 pin plug:

AC powered battery chargers with part numbers not preceded by UK are delivered with the standard European 2 pin plug and cannot legally be used in the UK.

4 REASONS WHY OPTIMATE IS BETTER THAN OTHER BATTERY CHARGERS

ALL OPTIMATE BATTERY CHARGERS

- 1 TEST** battery condition at connection, decide optimal charge method, then charge. Models from OptiMate 3 also test after charging.
- 2 UNIQUE MAINTENANCE PROGRAM**
24/7 safe maintenance. Checks charge level hourly, delivers exact charge to keep battery at 100% and support 'always on' vehicle circuitry. Soft pulse prevents sulphation build-up.
- 3 EQUALIZES BATTERY CELLS** with a unique pulsing method, brings each cell to full charge for guaranteed 100% battery performance!

ONLY OPTIMATE BATTERY SAVING CHARGER MODELS

(OptiMate 3, 4, 5, 6 and Lithium)

- 4 SAVE 'DEAD' BATTERIES** other chargers can't from as low as 1/2 a Volt.

Lead-acid chargers (3, 4, 5, 6) : *Proven controlled desulphation program for off vehicle battery saving and safe low volt recovery program for on vehicle battery reconditioning.*

Lithium chargers (4s 0.8A, 4s 5A) : *Proven Low voltage save & test program re-balances cells and check for damage.*

OptiMATE
The Battery Saving
Charger

OptiMATE 1

**Cost-effective
12V battery
maintenance**

TM-88

Smart voltage & current control



1


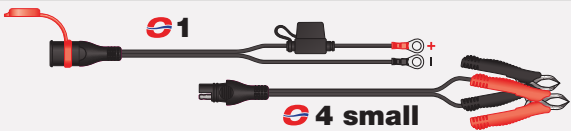
Low Volt Start
(8V)

2

Controlled
CHARGE

3

OptiMate
maintenance

CHARGING AMPS	0.6A
USE	INDOOR t°min: -20°C
SAVE	Low Volt Start 8V
IDEAL FOR	 STD AGM GEL 2 - 50Ah
CABLE ACCESSORIES	 1 4 small

Optimate2

Advanced 12V battery maintenance

Smart voltage & current control

Charges flat batteries from 2 Volt



TM-420
UK: TM-422

WEATHERPROOF CASE
with WALL MOUNTS

1

Low Volt
Start (2V)

2



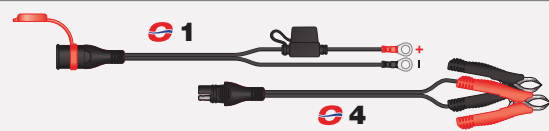
Controlled
CHARGE

3

OPTIMIZE

4

OptiMate
maintenance

CHARGING AMPS	0.8A
USE	INDOOR t°min: -20°C
SAVE	Low Volt Start 2V
IDEAL FOR	  3 - 96Ah
CABLE ACCESSORIES	

Optimate3

**Most TRUSTED
battery charger
in power sports**

Recovers sulphated batteries

TEST after charging



**TM-430
UK: TM-432**

1

Low Volt
Start (2V)

2

Turbo
SAVE

3

Pulse
SAVE

4

Controlled
CHARGE

5

OPTIMIZE



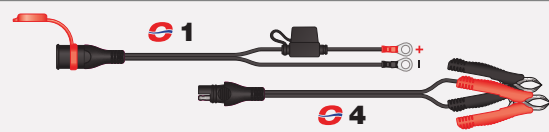
6

TEST after
CHARGE

7

OptiMate
maintenance

WEATHERPROOF CASE
with WALL MOUNTS

CHARGING AMPS	0.8A
USE	INDOOR t°min: -20°C
SAVE	Low Volt Start 2V + 2 step desulphation recovery
IDEAL FOR	  2 - 50Ah
CABLE ACCESSORIES	

Optimate3 x2
DUAL BANK

**Most TRUSTED
battery charger
in power sports**

x2
DUAL BANK

TM-450
UK: TM-450BS

Independent charge banks

Charge series connected batteries



WEATHERPROOF CASE
with WALL MOUNTS

1

Low Volt
Start (2V)

2

Turbo
SAVE

3

Pulse
SAVE

4

Controlled
CHARGE

5



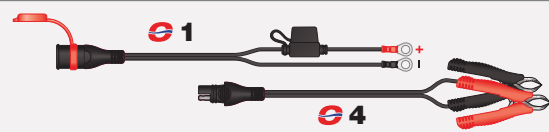
OPTIMIZE

6

TEST after
CHARGE

7

OptiMate
maintenance

CHARGING AMPS	2 x 0.8A
USE	INDOOR t°min: -20°C
SAVE	Low Volt Start 2V + 2 step desulphation recovery
IDEAL FOR	  3 - 50Ah
CABLE ACCESSORIES (per bank)	

Optimate3 x4
QUAD BANK

Most TRUSTED
battery charger
in power sports

x4
QUAD BANK

TM-454
UK: TM-454BS

Independent charge banks

Charge series connected batteries



WEATHERPROOF CASE
with WALL MOUNTS

1

Low Volt
Start (2V)

2

Turbo
SAVE

3

Pulse
SAVE

4

Controlled
CHARGE

5



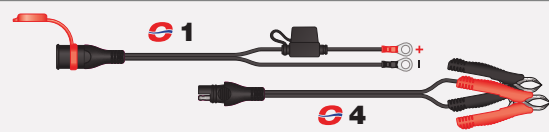
OPTIMIZE

6

TEST after
CHARGE

7

OptiMate
maintenance

CHARGING AMPS	4 x 0.8A
USE	INDOOR t°min: -20°C
SAVE	Low Volt Start 2V + 2 step desulphation recovery
IDEAL FOR	  3 - 50Ah
CABLE ACCESSORIES (per bank)	

Optimate4

Most ADVANCED & TRUSTED battery charger in power sports

**TM-240
UK: TM-242**



TESTS before & after charging



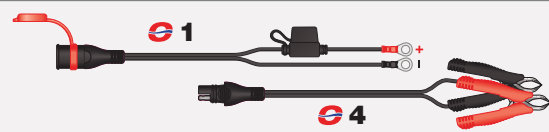
STD & BMW CAN-bus programs

Recovers batteries from 0.5V

WEATHERPROOF CASE
with WALL MOUNTS
❄️ 'ARCTIC' CABLE

STANDARD PROGRAM 1

- | | | | | |
|-----------------------------------|--------------------------------|-----------------------------|-------------------------------|----------------------------------|
| 1
Low Volt Start (0.5V) | 2
TEST before charge | 3
Pulse 'wake up' | 4
Turbo SAVE | |
| 5
Pulse SAVE | 6
Controlled CHARGE | 7
OPTIMIZE | 8
TEST after CHARGE | 9
OptiMate maintenance |

CHARGING AMPS	0.8A
USE	INDOOR / OUTDOOR ❄️ t°min: -40°C
SAVE	Low Volt Start 0.5V + 2 step desulphation recovery
IDEAL FOR	  3 - 50Ah
CABLE ACCESSORIES	

Optimate4

CAN-bus edition

TM-246
UK: TM-246BS






CAN-bus program pre-selected

4ft/120cm BIKE charge cable

WEATHERPROOF CASE
with WALL MOUNTS
❄️ 'ARCTIC' CABLE

CAN-bus PROGRAM 2

- | | | | |
|-------------------------------------------|------------------------------------------|---------------------------------------------|------------------------------------------------|
| 1
CAN-bus
'Wake up'
pulse | 2
CAN-bus
low volt
check | 3
TEST
before
CHARGE | 4
PULSE
SAVE |
| 5
Controlled
CHARGE | 6
CAN-bus
OPTIMIZE | 7
CAN-bus
TEST after
CHARGE | 8
CAN-bus
Optimate
maintenance |

CHARGING AMPS	0.8A
USE	INDOOR / OUTDOOR ❄️ t°min: -40°C
SAVE	Low Volt start 0.5V + deep discharge recovery
IDEAL FOR	  3 - 30Ah
CABLE ACCESSORIES	

Optimate5

Complete 12V battery care for medium to large batteries

Desulphates and saves neglected batteries

Tests battery every hour



TM-220
UK: TM-220BS

WEATHERPROOF CASE
with WALL MOUNTS

1

Low Volt
START (2V)

2

Turbo
SAVE

3

PULSE
SAVE

5

Controlled
CHARGE

6



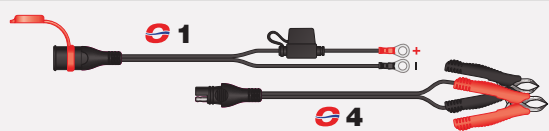
OPTIMIZE

7

TEST after
CHARGE

8

Optimate
maintenance

CHARGING AMPS	12.8A @ 12V	
USE	INDOOR / OUTDOOR	t°min: -20°C
SAVE	Low Volt start 2V + 2 step desulfation recovery	
IDEAL FOR	  8 - 120Ah	
CABLE ACCESSORIES		

Optimate5

voltmatic

**ADVANCED
6V & 12V
battery care**

Voltmatic 6V/12V selection



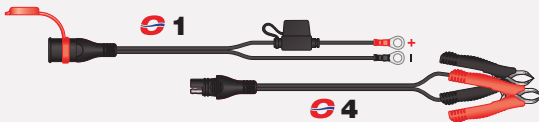
Saves sulphated 6V & 12V batteries



**TM-222
UK: TM-222BS**

**WEATHERPROOF CASE
with WALL MOUNTS**

- | | | | |
|------------------------------------|-----------------------------------------------------|----------------------------------|-------------------------------------|
| 1
Low Volt
Start (1V) | 2
Voltmatic
CHARGE
selection | 3
Turbo
SAVE | 4
Pulse
SAVE |
| 5
Controlled
CHARGE | 6
OPTIMIZE | 7
TEST after
CHARGE | 8
OptiMate
maintenance |

CHARGING AMPS	4A @ 6V / 2.8A @ 12V
USE	INDOOR / OUTDOOR t°min: -20°C
SAVE	Low Volt start 1V + 2 Step desulfation recovery
IDEAL FOR	  8 - 120Ah
CABLE ACCESSORIES	

Optimate6 ampmatic

The world's most advanced fully automatic battery charger

TESTS before & after charging

Recovers batteries from 0.5V

Ampmatic : adjusts to any battery size



TM-180
UK: TM-180BS

WEATHERPROOF CASE
with WALL MOUNTS
❄️ 'ARCTIC' CABLE

1

Low Volt Start (0.5V)

2

TEST before CHARGE

3

Pulse 'wake up'

4

Turbo SAVE

5

Ampmatic
Pulse SAVE

6

Ampmatic
CHARGE

7

Ampmatic
OPTIMIZE

8

TEST after CHARGE

9

OptiMate maintenance

CHARGING AMPS

5A Ampmatic

USE

INDOOR / OUTDOOR ❄️ t°min: -40°C

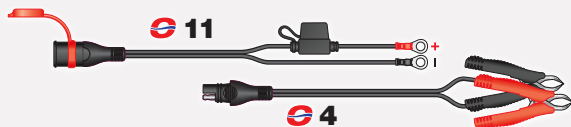
SAVE

Low Volt start 0.5V + 2 Step desulfation recovery

IDEAL FOR



CABLE ACCESSORIES



Optimate6 select

The world's most advanced battery charger for 12V starter & deep cycle batteries

Select 14.4V / 14.7V charge modes

Temperature compensated charging

Power supply service mode – 13.6V 4A



TM-190
UK: TM-192

WEATHERPROOF CASE
with WALL MOUNTS
❄️ 'ARCTIC' CABLE

1

Low Volt
Start (0.5V)

2

TEST
before
CHARGE

3

Pulse
'wake up'

4

Turbo
SAVE

5

Ampmatic
Pulse SAVE

6

Ampmatic
CHARGE

7



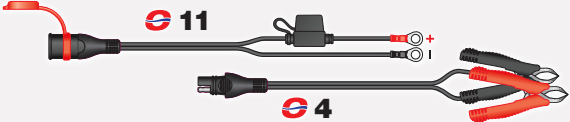
Ampmatic
OPTIMIZE

8

TEST after
CHARGE

9

SMART
OptiMate
maintenance

CHARGING AMPS	5A Ampmatic @ 14.4V / 14.7V / 4A @ 13.6V
USE	INDOOR / OUTDOOR ❄️ t°min: -40°C
SAVE	Low Volt start 0.5V (12V) + 2 Step desulfation recovery
IDEAL FOR	  3 - 240Ah
CABLE ACCESSORIES	



The world's most advanced battery charger for 12V starter & deep cycle batteries

Select 14.4V / 14.7V charge modes

Temperature compensated charging

Power supply service mode – 13.6V 8A



TM-250
UK: TM-252

WEATHERPROOF CASE
with WALL MOUNTS
❄️ 'ARCTIC' CABLE

- | | | | | |
|------------------------|-----------------------------------|--------------------------------|-------------------------------|----------------------------------|
| 1
Selection | 2
Low Volt Start (0.5V) | 3
TEST before CHARGE | 4
Turbo SAVE | |
| 5
Pulse SAVE | 6
Controlled CHARGE | 7
OPTIMIZE | 8
TEST after CHARGE | 9
OptiMate maintenance |

CHARGING AMPS	10A Ampmatic @ 14.4V / 14.7V / 8A @ 13.6V
USE	INDOOR / OUTDOOR ❄️ t°min: -40°C
SAVE	Low Volt start 0.5V (12V) + 2 Step desulfation recovery
IDEAL FOR	 3 - 400Ah
CABLE ACCESSORIES	 11 and 4

Optimate6

(12V-24V)

**The world's most advanced
12V & 24V charger**

**TM-194
UK: TM-196**



Select 12V 5A / 24V 2.5A modes

Temperature compensated charging

Ampmatic : adjusts to any battery size

SAFE! Selected voltage must match battery

WEATHERPROOF CASE
with WALL MOUNTS
❄️ 'ARCTIC' CABLE

1

Volts
select > Low
Volt start

2

Automatic
protection

3

TEST before
charge

4

Ampmatic
Pulse
SAVE

5

Ampmatic
CHARGE

6



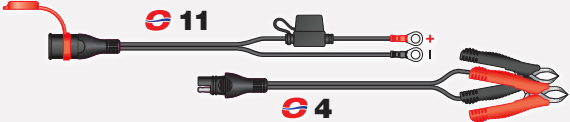
Ampmatic
OPTIMIZE

7

TEST after
CHARGE

8

SMART
OptiMate
maintenance

CHARGING AMPS	5A @ 12V / 2.5A @ 24V Ampmatic
USE	INDOOR / OUTDOOR ❄️ t°min: -40°C
SAVE	Low Volt start 0.5V (12V) + 1 Step desulfation recovery
IDEAL FOR	  3 - 200Ah (12V) / 1-100Ah (24V)
CABLE ACCESSORIES	

Optimate7 12-24V

**For 12V & 24V batteries
with accurate temperature
controlled charging**

**TM-260
UK: TM-262**



Select 12V 10A / 24V 5A modes

Temperature compensated charging

Ampmatic : adjusts to any battery size

SAFE! Selected voltage must match battery

WEATHERPROOF CASE
with WALL MOUNTS
❄️ 'ARCTIC' CABLE

1

Voltage
Selection

2

Automatic
Protection

3

TEST
before
CHARGE

4

Low Volt
Pulse SAVE

5

Controlled
CHARGE

6



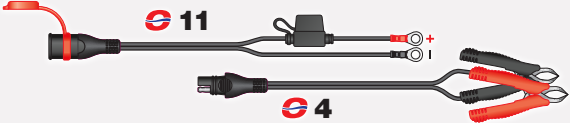
OPTIMIZE

7

TEST after
CHARGE

8

OptiMate
maintenance

CHARGING AMPS	10A <i>Ampmatic</i> @ 12V / 5A @ 24V
USE	INDOOR / OUTDOOR ❄️ t°min: -40°C
SAVE	Low Volt start 0.5V (12V) + 1 Step desulfation recovery
IDEAL FOR	  3 - 400Ah (12V) / 3 - 200Ah (24V)
CABLE ACCESSORIES	

Guaranteed! : More Battery Power - Longer Battery Life - Saves Your Low Volt Lithium Battery.



Ah

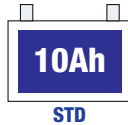


A LITHIUM battery delivers the same cranking amps as the lead-acid battery it replaced, but with 3-4 times less amp-hours.

A stored vehicle with 'always on' circuitry drain amp-hours out of its battery; a Lithium battery will drain faster.

COMPARISON:

Battery Size
that can deliver
120 CRANKING AMPS.



= 120 C.A.



VOLTS



A LITHIUM Battery's voltage range is higher than lead-acid.

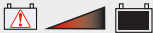
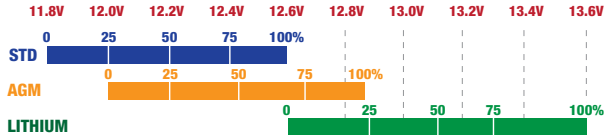
A lead-acid charger will not fully charge a lithium battery. Vehicle charge system is designed for lower voltage of Lead-Acid; at idle or low RPM a Lithium battery loses charge.

VOLTS AND % CHARGE:

STD LEAD-ACID

AGM LEAD-ACID

LiFePO₄ LITHIUM



SAVE A FLAT
BATTERY



A flat LITHIUM battery needs low current to safely recover.

At low volts lead-acid chargers deliver high current that will damage a Lithium battery.

CHARGE CURRENT

LEAD-ACID
AND LITHIUM



CHARGING

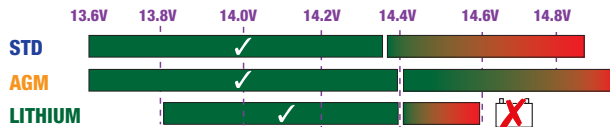


A LITHIUM battery needs accurate voltage charging.

Voltage higher than 14.6V damages Lithium batteries. Some Lead-Acid chargers deliver more than 14.6V.

CHARGE VOLTAGE

LEAD-ACID
AND LITHIUM



Optimate **LFP**
lithium 4s 0.8A

**Unique LiFePO₄
battery protection**

LiFePO₄ Low Volt Save

Battery BMS auto reset



TM-470
UK: TM-470UK



WEATHERPROOF CASE
with WALL MOUNTS

1

Low Volt Start
(0.5V)

2

Ultra LOW
VOLT SAVE

3

LOW VOLT
SAVE /
cell monitoring

4

TEST - cell
damage

5

Cell-balancing
CHARGE

6

OPTIMIZE

7

TEST after
CHARGE

8

OptiMate
maintenance

CHARGING AMPS	0.8A
USE	INDOOR / OUTDOOR t°min: -20°C
SAVE	Low Volt start 0.5V + 3 Step low volt SAVE & TEST
IDEAL FOR	 up to 30Ah
CABLE ACCESSORIES	

Optimate **LFP** **x4**
lithium **4s 0.8A** **QUAD BANK**

**Unique LiFePO₄
 battery preparation
 for DEALERS**

TM-484
UK: TM-484BS

Keep batteries 100% ready

4 independent charge banks



**WEATHERPROOF CASE
 with WALL MOUNTS**



1

Low Volt Start
 (0.5V)

2

Ultra LOW
 VOLT SAVE

3

LOW VOLT
 SAVE /
 cellmonitoring

4

TEST - cell
 damage

5

Cell-balancing
 CHARGE

6

OPTIMIZE

7

TEST after
 CHARGE

8

OptiMate
 maintenance

CHARGING AMPS	4 x 0.8A
USE	INDOOR / OUTDOOR t°min: -20°C
SAVE	Low Volt start 0.5V + 3 Step low volt SAVE & TEST
IDEAL FOR	 up to 30Ah
CABLE ACCESSORIES (per bank)	

Optimate **LFP**
lithium 4s 5A

Ultimate LiFePO₄ professional battery charger

Battery BMS auto reset

Advanced LiFePO₄ low volt SAVE

SafeT° charge range : -20°C to 45°C

Ampmatic : adjusts to any battery size



TM-290
UK: TM-292

WEATHERPROOF CASE
with WALL MOUNTS



1

Low Volt Start
(0.5V)

2

TEST before
charge

3

Temperature
check

4

Ultra LOW
VOLT SAVE

5

LOW VOLT
SAVE /
cell monitoring

6

TEST - cell
damage

7

Cell-balancing
CHARGE

8



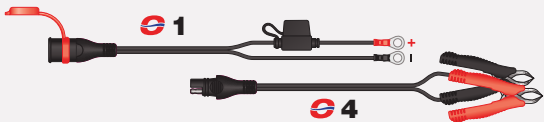
OPTIMIZE

9

TEST after
CHARGE

10

OptiMate
maintenance

CHARGING AMPS	5A Ampmatic	
USE	INDOOR / OUTDOOR	t°min: -20°C
SAVE	Low Volt start 0.5V + 3 Step low volt SAVE & TEST	
IDEAL FOR	  up to 100Ah	
CABLE ACCESSORIES		

The Ultimate LiFePO₄ professional battery charger for 12.8V and 16V batteries

TM-270
UK: TM-272



Battery BMS auto reset

Advanced LiFePO₄ low volt SAVE

SafeT° charge range : -20°C to 45°C

Ampmatic : adjusts to any battery size



WEATHERPROOF CASE
with WALL MOUNTS
❄️ 'ARCTIC' CABLE

- | | | | | |
|-----------------------------------|-----------------------------------|-------------------------------|---------------------------------|--------------------------------------------|
| 1
Low Volt Start (0.5V) | 2
TEST before charge | 3
Temperature check | 4
Ultra LOW VOLT SAVE | 5
LOW VOLT SAVE / cellmonitoring |
| 6
TEST - cell damage | 7
Cell-balancing CHARGE | 8
OPTIMIZE | 9
TEST after CHARGE | 10
OptiMate maintenance |

CHARGING AMPS	9.5A Ampmatic @ 12.8V / 7.5A @ 16V
USE	INDOOR / OUTDOOR ❄️ t°min: -40°C
SAVE	Low Volt start 0.5V + 3 Step low volt SAVE & TEST
IDEAL FOR	 Up to 200Ah
CABLE ACCESSORIES	 11 and 4

Optimate 12V
DC → DC 12V 2A

Charge your 12V battery from another 12V battery!

TM-500



Charge without AC power

Maintain remote battery

SAVE your 'dead' battery

WEATHERPROOF CASE
with WALL MOUNTS
❄️ 'ARCTIC' CABLE

1

Low Volt Start (1V)

2

Turbo SAVE

3

Pulse SAVE

4

Controlled CHARGE

5

OPTIMIZE



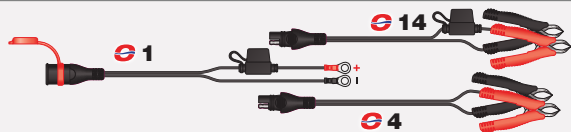
6

TEST after CHARGE

7

OptiMate maintenance



CHARGING AMPS	2A
USE	INDOOR / OUTDOOR ❄️ t°min: -40°C
SAVE	Low Volt start 1V + 2 Step desulfation recovery
IDEAL FOR	  6 - 96Ah
CABLE ACCESSORIES	

**The world's most efficient 12V
solar pulse charge system**

TM-524

Smart pulse current control

SAVE your 'dead' battery with solar power

Controlled SAFE long term maintenance

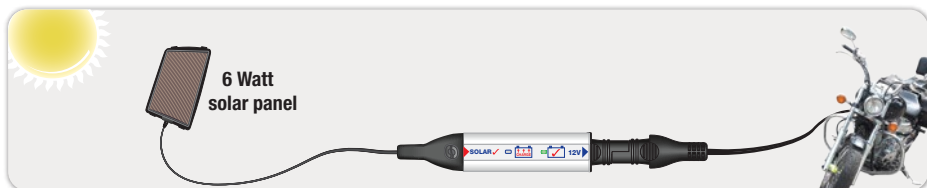
SOLAR POWER OK
red light on



CHARGING
red light flashing



MAINTAINING (READY)
green light flashing



INCLUDED:
6W SOLAR PANEL with
WEATHERPROOF CASE
+ MOUNTING HARDWARE
+ 0-140 12V CHARGE
CONTROLLER
+ CABLE ACCESSORIES

1

TEST
solar volts
& battery

2




Pulse
SAVE
(from 1V)

3

Pulse
CHARGE

4

OptiMate
Pulse
maintenance

CHARGING	4 - 5A peak pulse	
USE	INDOOR / OUTDOOR	t°min: -20°C
SAVE	Low Volt start 1V Pulse SAVE	
IDEAL FOR	  from 2Ah	
CABLE ACCESSORIES		

The world's most efficient 12V solar pulse charge system

TM-520

Smart pulse current control

SAVE your 'dead' battery with solar power

Controlled SAFE long term maintenance

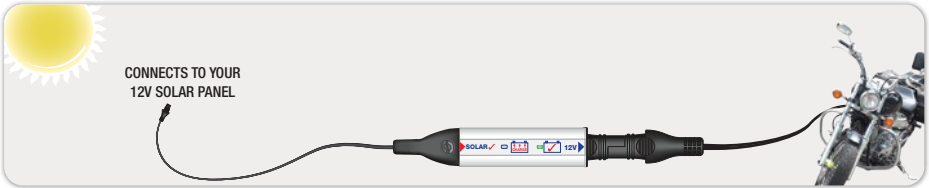
SOLAR POWER OK
red light on



CHARGING
red light flashing



MAINTAINING (READY)
green light flashing



- INCLUDED:
+ 0-140 12V CHARGE CONTROLLER
+ CABLE ACCESSORIES

1

TEST solar volts & battery

2

Pulse SAVE (from 1V)

3

Pulse CHARGE

4

OptiMate Pulse maintenance

CHARGING	4 - 5A peak pulse	
USE	INDOOR / OUTDOOR	t°min: -20°C
SAVE	Low Volt start 1V Pulse SAVE	
IDEAL FOR	 from 2Ah	
CABLE ACCESSORIES		

The world's first 6V solar pulse charger that works from a standard 12V solar panel

TM-521

Smart pulse current control

SAVE your 'dead' battery with solar power

Controlled SAFE long term maintenance

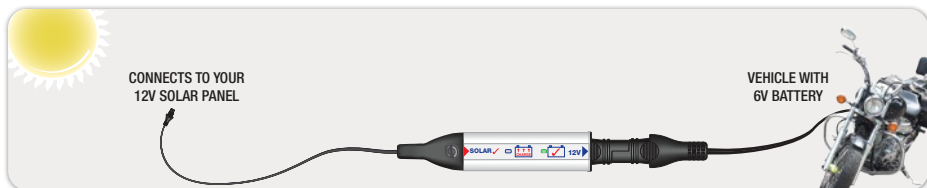
SOLAR POWER OK
red light on



CHARGING
red light flashing



MAINTAINING (READY)
green light flashing



INCLUDED:
+ 0-141 6V CHARGE CONTROLLER
+ CABLE ACCESSORIES

1

TEST solar volts & battery

2




Pulse SAVE (from 1V)

3

Pulse CHARGE

4

OptiMate Pulse maintenance

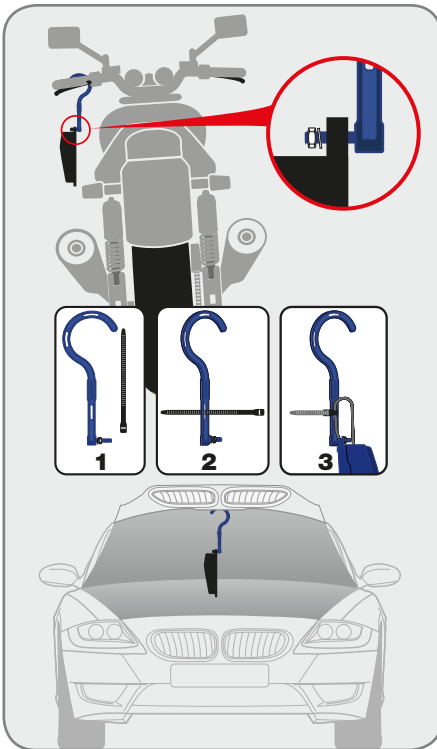
CHARGING	4 - 5A peak pulse	
USE	INDOOR / OUTDOOR	t°min: -20°C
SAVE	Low Volt start 1V Pulse SAVE	
IDEAL FOR	  from 2Ah	
CABLE ACCESSORIES		

Charger HOOK

Keep your charger off the ground and in plain view.

***Supports
OptiMate 2, 3, 4, 5, 6, 7,
Lithium***

TS-252



OptiMATE

The Battery Saving
Charger

GENERAL
SPECIFICATIONS

AC POWERED BATTERY CHARGERS

Global AC supply range: 100 - 240Vac 50-60Hz



Tested and conforms to electrical safety and electromagnetic interference requirements for Europe and North America (Canada & USA).



Complies with ROHS lead-free regulations.



California Energy Commission listed.

WARRANTY

Three year product replacement warranty. Find more information at www.tecmate.com/warranty.

DESIGN

All OptiMate battery chargers are 100% designed by TecMate.

OptiMATE

accessories

Find the full range of OptiMate Accessories
CABLE, USB, LED, battery MONITOR and TESTER at
optimate1.com