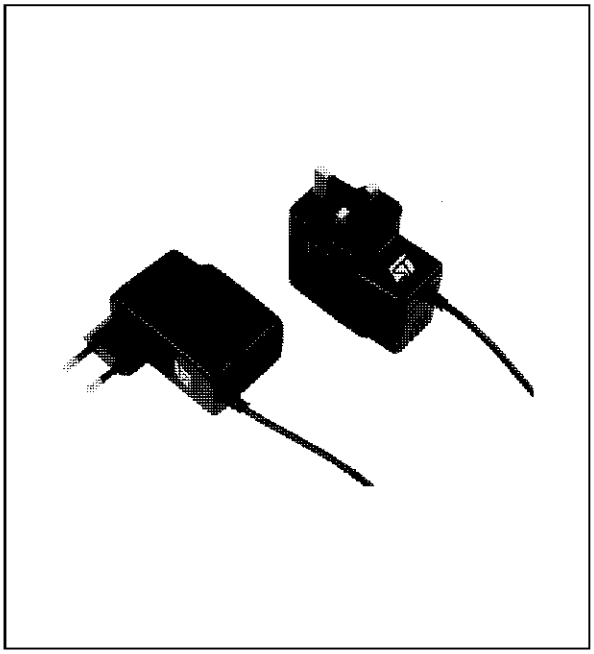
SGS-THOMSON MICROELECTRONICS

GSAC-8.507BC

BATTERY CHARGER

Type	V_{in}	V_{out}	I_{out}
GSAC-8.507BC	230 V_{RMS}	8.5 V	700 mA



FEATURES

- Charge of NiCd or NiMH batteries
- Switch mode constant current generation
- Three level charging current (fast, trickle, zero charging current)
- Overcharge detection by - Δ V and $\Delta T/\Delta t$ under internal microprocessor control
- No discharge of the battery when charger is turned off
- Initial trickle charge for deeply discharged batteries
- Maximum battery voltage protection
- Maximum battery temperature protection
- Timer back up protection
- Output short circuit protection
- Detection of fault battery
- Charge status displayed by LED
- European or UK plug

DESCRIPTION

The GSAC-8.507BC is a high efficiency battery charger for connection to the mains and to be used with 5 cells NiCd and NiMH batteries.

Two versions of the INPUT PLUG ADAPTOR are available:

EUROPEAN VERSION : GSAC-8.507BC-1 (ORDERING NUMBER)

UK VERSION : GSAC-8.507BC-2 (ORDERING NUMBER)
(See pag. 3 for mechanical data)

ELECTRICAL CHARACTERISTICS (T_{amb} = 25°C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V_{in}	AC Input Voltage	Ich = 0 to 0.7A	187	230	264	Vrms
I_{chf}	Fast Charge Current	Vin = 187 to 264 Vrms Vbattery = 5 to 8.2V	0.65	0.70	0.75	A
I_{cht}	Trickle Charge Current	Vin = 187 to 264 Vrms Vbattery = 1 to 5V or 0°C < Tbatt < 10°C or charge completed	20	30	40	mA
C	Returned Charge	Vin = 187 to 264 Vrms		95		%
V_{batt}	Maximum Battery Voltage Protection	Vin = 187 to 264 Vrms Ich = 0.7A	8.2	8.5	8.7	V
T_{co}	Battery Temperature Cut Off	Vin = 187 to 264 Vrms Ich = 0.0A		50		°C
t_{out}	Time Out Protection Duration	Vin = 187 to 264 Vrms Ich = 0.7A		2		hours
f_s	Switching Frequency	Vin = 187 to 264 Vrms Ich = 0.03 to 0.7A		100		kHz
T_{op}	Operating Ambient Temperature Range		-20		+60	°C
T_{stg}	Storage Temperature Range		-25		+85	°C

Status	Condition
Red ON	- Fast charge (Ich = 0,7A)
Green ON	- Charge Completed (Ich = 0.03A) - Timer elapsed
Red Flashing	Anomalous battery conditions (Ich = 0.0A) - Initial Tbattery < 0 °C - Initial Tbattery > 40 °C - Tbattery > 50 °C - Faulty battery
Green Flashing	(Ich = 0.03A) - Initial charge of deeply discharged batteries - 0 °C < Tbatt < 10 °C
OFF	Battery not connected

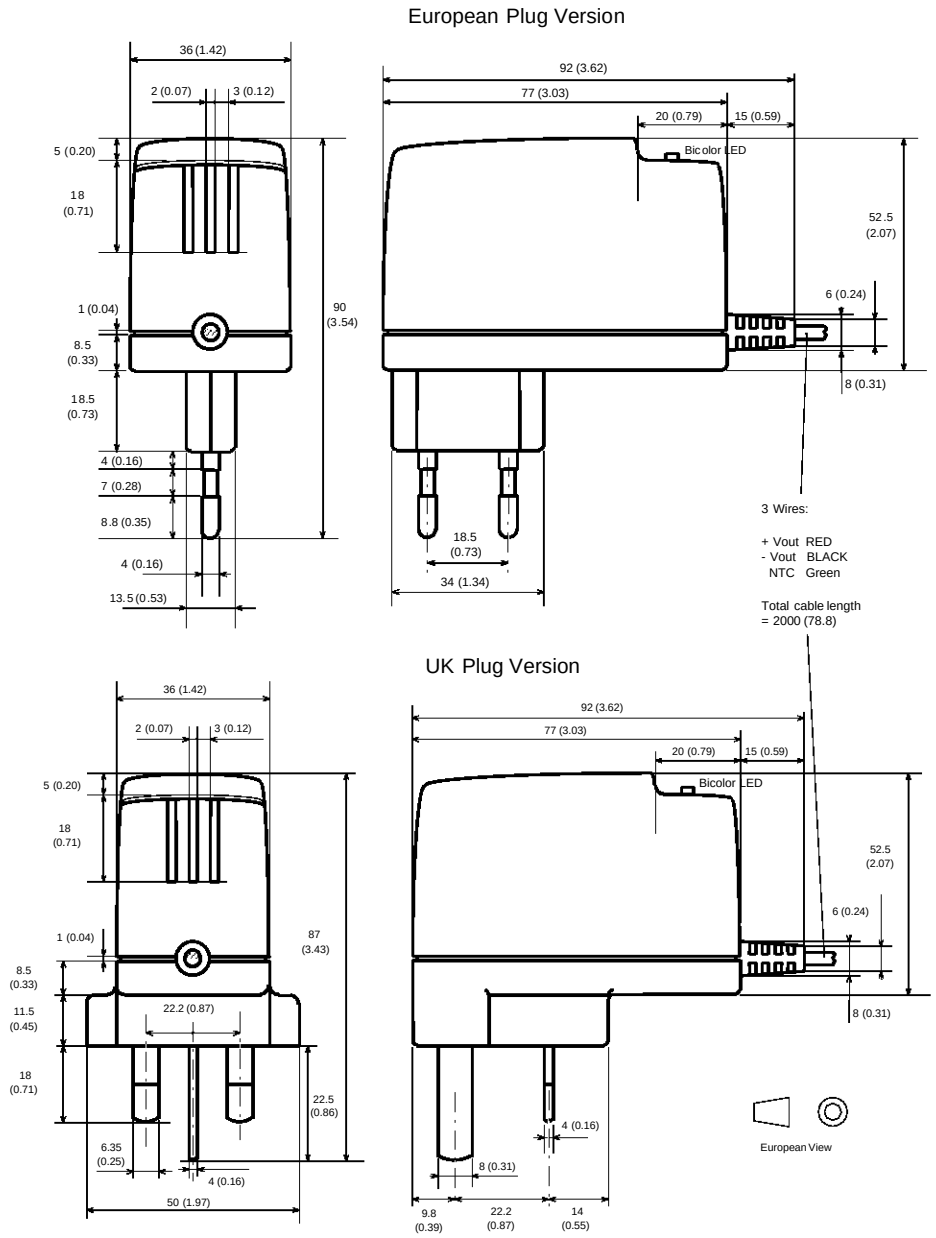
NOTES

1 - The battery temperature detection is a function of the characteristics of the NTC resistor used inside the battery pack. Please consult factory.

2 - Different fast charge and trickle charge currents, and different time out are available on request (Maximum charge current cannot exceed 1A).

3 - For connector to the battery pack please consult factory.

CONNECTION DIAGRAM AND MECHANICAL DATA



Output connector to be defined according to customer specifications
Dimensions in mm (inches).