

# Satellite Time Signal Receiver

## GPS 4500

GPS satellite time signal receiver with serial time code output (DCF 77 coded, UTC or CET) for synchronization of Master Clocks (MTC, CTC, MTS, ETC, NMC, DTS, LTS, HN 50...) or other devices with DCF 77 current loop input.



- Easy mounting: Direct connection to Master Clock with UV-resistant 4-wire cable for power and time code signal.
- Low power consumption.
- LED status display (viewable from bottom side, cable side)  
 red : UTC time output  
 green : CET local time output
- Time code output selection UTC or CET:

Connection for time code output		
cable color	UTC	CET
yellow	V+ (10 – 40 VDC)	V- (GND)
green	V- (GND)	V+ (10 – 40 VDC)

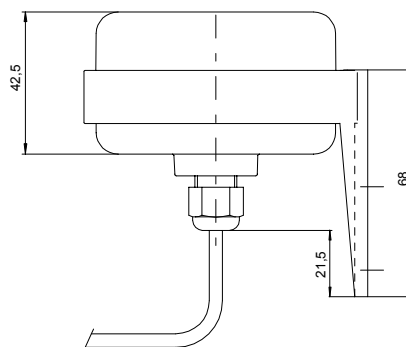
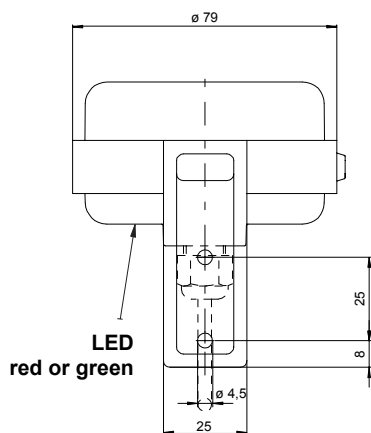
Time code signal CET: Automatic daylight saving time change according to valid rule.

CET: last Sunday in October 03:00 → 02:00

CEST: last Sunday in March 02:00 → 03:00

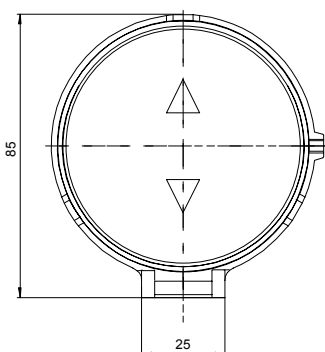


**Attention:** For Master Clocks with 48 or 60 VDC output the surge and lightning protection box SP4500 has to be used!




Standard cable length 10m  
(max. length 200m)

**Break point is part of outer unit.**



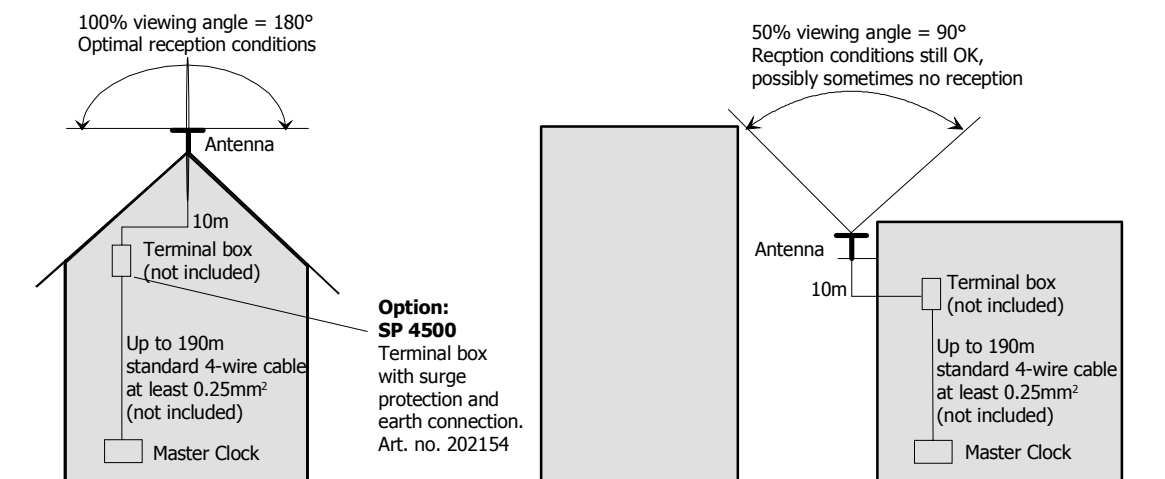
## Technical Data

GPS 4500	
Input voltage	10 – 40 VDC
Power consumption	< 0.5 W (< 50 mA @ 10V)
Operating temperature	-30 ... +70°C
Conformity	1999 / 5 / EC
Degree of protection	New housing (black / milky white): IP 65 Old housing (milky white): IP 54
Dimensions (without bracket)	L 86 x B 80 H 86 (L=distance from wall)
Weight	ca. 200 g
Housing	material: POM (polyester); top part - black; lower part - milky white; UV-resistant
Cable	10m, UV-protected, 4 wires, 0.25mm <sup>2</sup> (cable type AWG 23) extension up to 200m possible
Insulated output	time code (UTC or CET, DCF 77 coded),  typical pulse duration: logical 0: 100ms; logical 1: 200ms leading edge of time code pulse is synchronized to GPS second pulse (PPS)
Satellites	12 channel satellite tracking, min. 3 satellites required
Accuracy of leading edge	better ±10 µs
Synchronization time	< 25 minutes
Display (LED red / green): After startup, not yet synchronized Synchronization OK Synchronization lost	power ok → LED flashing every 5s LED flashing once a second (DCF signal) LED flashing every 5s

## Connection

Cable wires (colors)	Function	
white	DCF+	optocoupler output (insulated)
brown	DCF-	optocoupler output (insulated)
	Time code output UTC	Time code output CET
yellow	V+ (DC 10-40V)	V- (GND)
green	V- (GND)	V+ (DC 10-40V)
	red LED	green LED

## Mounting



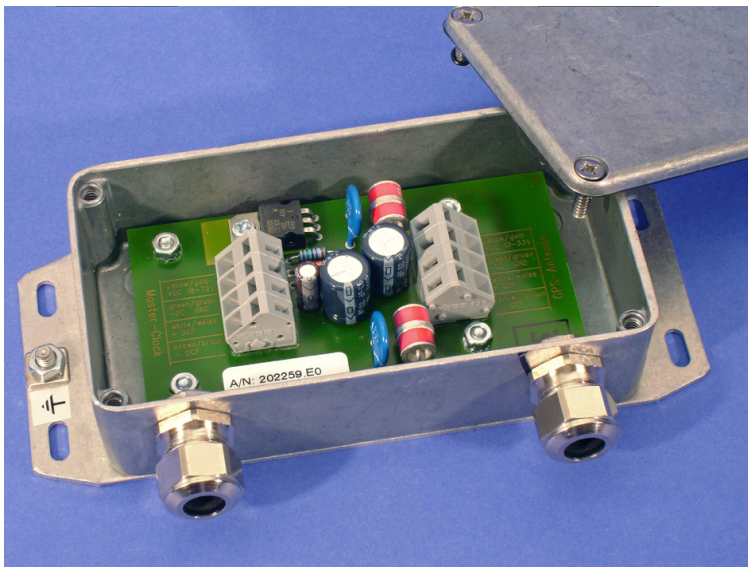
# SP 4500 / Art. No. 202154

Optional surge and lightning protection box for GPS receiver GPS 4500.

The surge and lightning protection box SP 4500 prevents the connected master clock from damage by means of voltage fluctuation (surge voltage).

To prevent the antenna from lightning, the concerning building has to be protected with a lightning protection system.

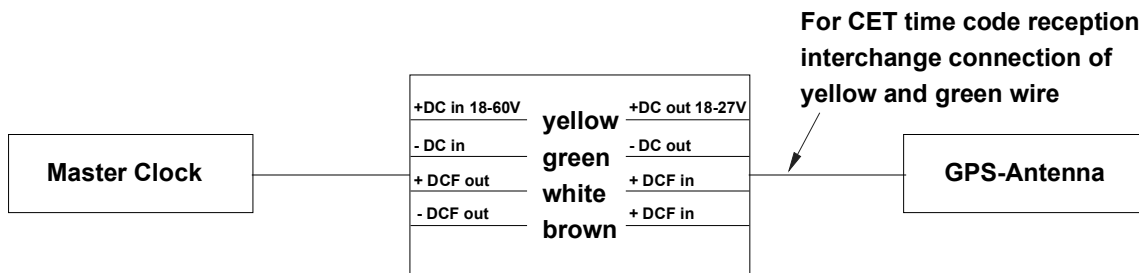
Terminals are described on the PCB.



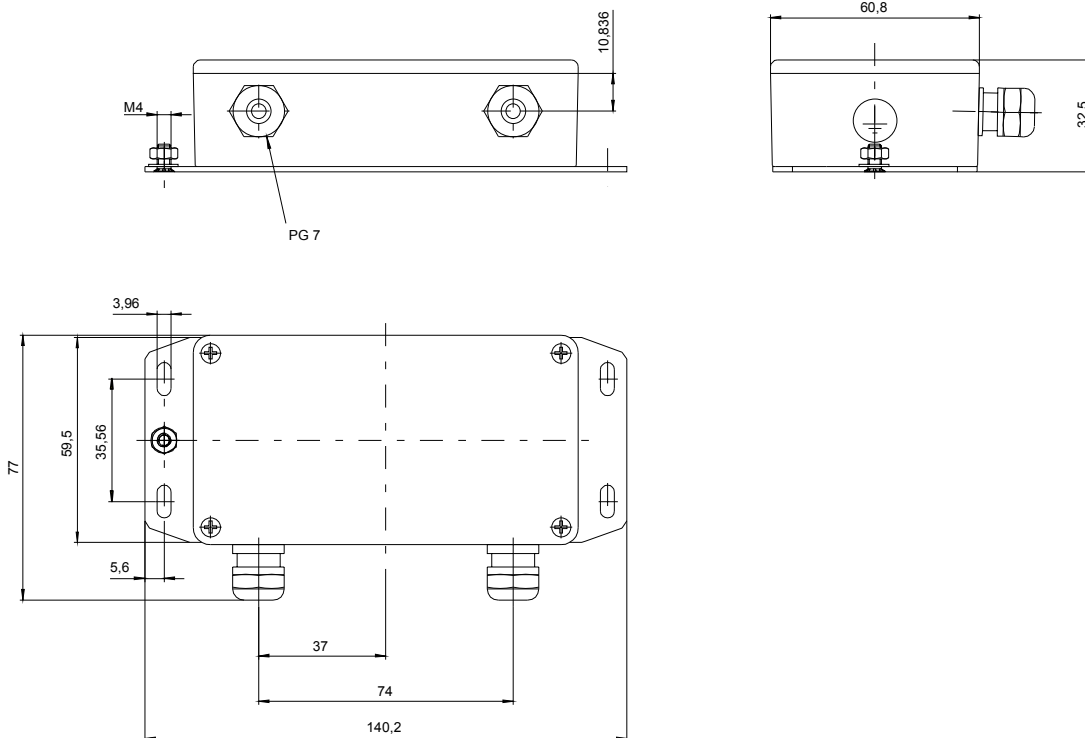
## Technical Data

Dimensions L x W x H in (mm) : 140 x 77 x 33  
 Input Voltage : 18 – 60 VDC  
 Output Voltage : 18 – 27 VDC

## Connections



## Dimensions





**SALES SWITZERLAND**  
MOBATIME SWISS AG

Stettbachstrasse 5 • CH-8600 Dübendorf  
Tel. +41 44 802 75 75 • Fax +41 44 802 75 65  
info-d@mobatime.ch • www.mobatime.ch

MOBATIME SWISS SA  
En Budron H 20 • CH-1052 Le Mont-sur-Lausanne  
Tél. +41 21 654 33 50 • Fax +41 21 654 33 69  
info-f@mobatime.ch • www.mobatime.ch

**SALES WORLDWIDE**

MOSER-BAER SA – EXPORT DIVISION  
19 chemin du Champ-des-Filles • CH-1228 Plan-les-Ouates/GE  
Tel. +41 22 884 96 11 • Fax. +41 22 884 96 90  
export@mobatime.com • www.mobatime.com

**PRODUCTION**

MOSER-BAER AG  
Spitalstrasse 7 • CH-3454 Sumiswald  
Tel. +41 34 432 46 46 • Fax. +41 34 432 46 99  
moserbaer@mobatime.com • www.mobatime.com



**SALES GERMANY, AUSTRIA, INDIA**

BÜRK MOBATIME GmbH  
Postfach 3760 D-78026 VS-Schwenningen  
Steinkirchring 46 D-78056 VS-Schwenningen  
Telefon +49 7720 8535 - 0 Telefax +49 7720 8535 - 11  
Internet: <http://www.buerk-mobatime.de> E-Mail: [buerk@buerk-mobatime.de](mailto:buerk@buerk-mobatime.de)