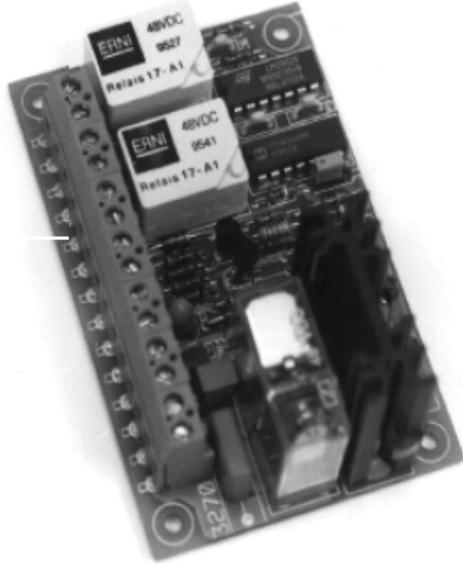


12V - 60V

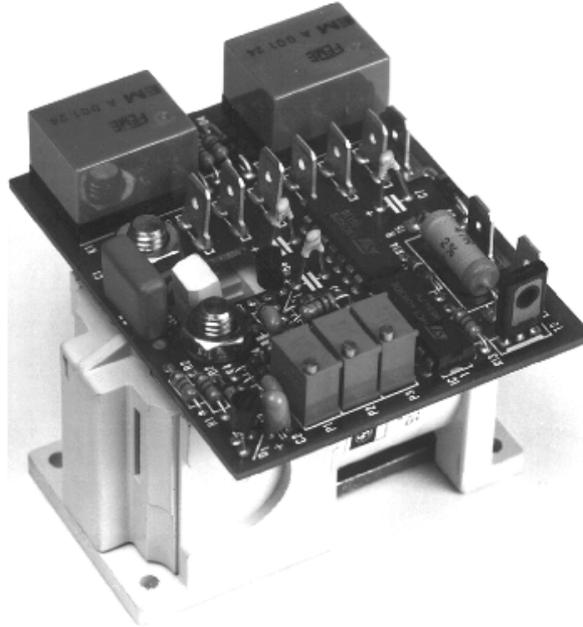
Deep Discharge-  
protection

### Battery Monitors

Chapt. 4.4. Series 1900



C1900-20

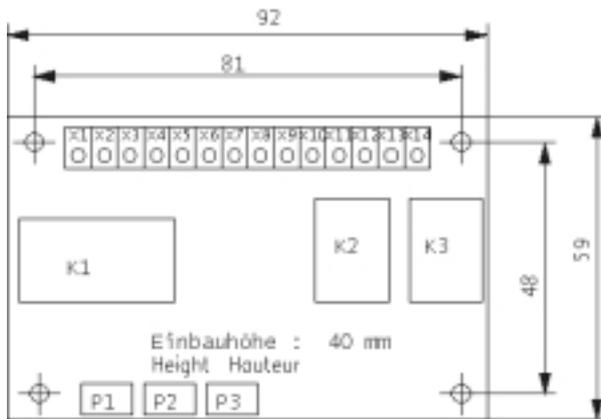


C1900-40

tery

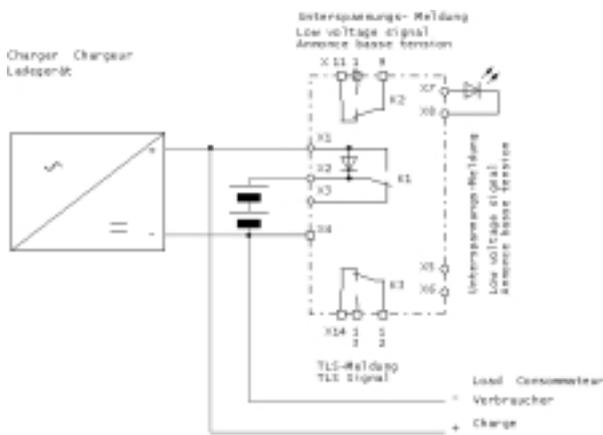
is

#### Function C1900 - 20 TLS



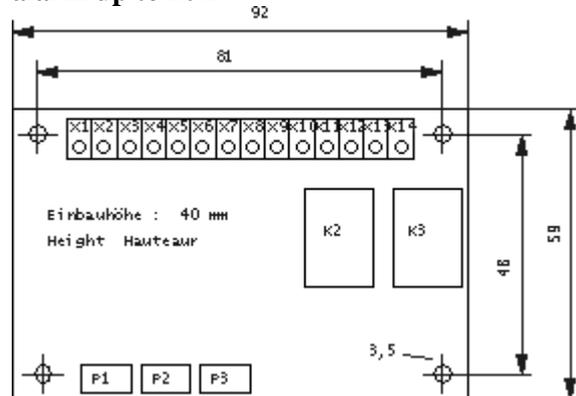
When reaching low voltage the potential free contact K2 switches and optional an LED lights. As soon as the voltage reaches a preset minimum value the relay K1 disconnects battery and load. By this feature the battery is protected against deep discharge. At the same time the relay K3 sends a potential free signal. As soon as the bat-

charged and reaches a preset voltage the load will be reconnected. The voltage thresholds can be adjusted by the potentiometers P1, P2, P3. The schematic drawing joint shows the operational details.



**Operation: C1900 - 20 UeSU**

**Overvoltage protection and Low Voltage alarm up to 20A**

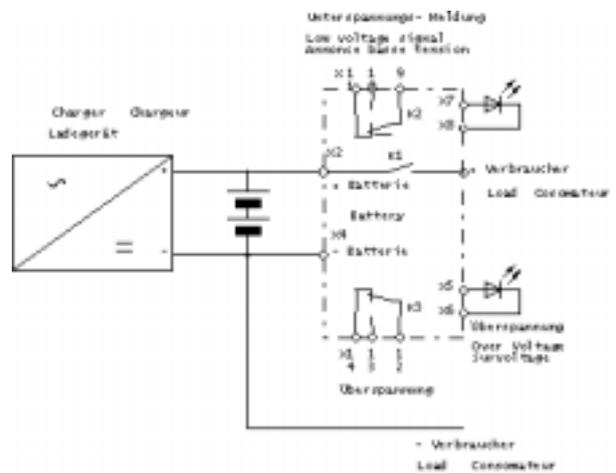


The low voltage alarm operates similar to the deep discharge protection.

As soon as the voltage exceeds a preset value the relay K1 disconnects the charger and the load from the battery. This action protects the battery and the load against high voltage. Parallel the relay K3 offers a potential free signal.

The switching thresholds apprx.n be adjusted by the potentiometers P1 and P2. The reset via P3 is omitted.

The operation is shown in the schematic drawing joint.

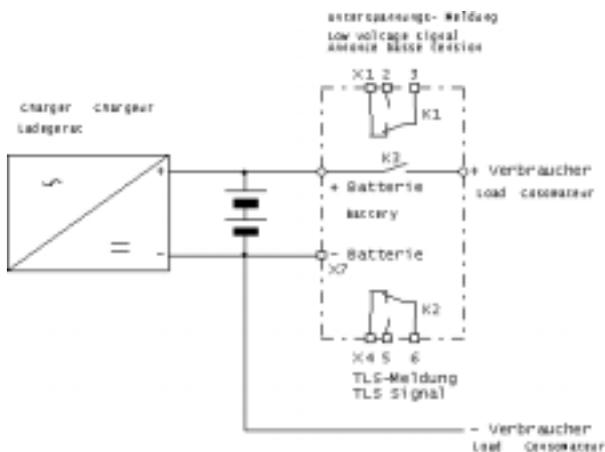


## Description of the Operation

### C 1900-40 TLS

When reaching a preset minimum voltage the relay K3 which has to be installed in the plus line disconnects the battery from the load. The battery is now protected against deep discharge. Parallel a signal is given via the potential free contacts of the relay K2. A low voltage warning is given via the relay K1 prior to the disconnection by the relay K3. As soon as the mains supply is back and the power supply is  $>2,15V$  the battery will be automatically reconnected.

For the operational details refer to the schematic drawing joint.



## Mechanical Design

The pcb and the auxiliary relay is installed on the top of the power relay. The power relay and the pcb are connected with 4mm bolts. The unit can be placed in any position.

### Connections.

The cables are connected via the 6mm screws of the power relay to the positive terminals of the battery and the load.

The negative terminals of the battery and the load are directly connected. The negative terminal of the battery is also connected with the deep discharge protection as a command line by a 6,3mm Faston connector.

The signal terminals of the relay can also be connected by 6,3mm Faston connectors.

### Technical Data R1900

Monitor type	C1900-20 TLS/UeSU		C 1900-40 TLS	
Max. contact load	Deep dis-charge relay	Signal relay	Deep dis-charge relay	Signal relay
12V DC	20A	3A	40A	3A
24V DC	20A	3A	40A	3A
48V DC	8A	2A	40A	2A
60V DC	3A	1A	40A	1A

Switching thresholds		
Low voltage signal at:	1,9V/Zelle	1,9V/Zelle
Disconnection of the load at:	1,7V/Zelle	1,7V/Zelle
Reconnection at:	2,15V/Zelle	2,15V/Zelle

Max. power consumption		
12V	< 1 Watt	appr. 600mA
24V	< 1 Watt	appr. 300mA
48V	< 1 Watt	appr. 150mA
60V	< 1 Watt	appr. 100mA

Max. power consumption, solenoid disconnected, for all voltages appr. mm <sup>2</sup>	7 mA when relay inactive
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Terminals:	Connectors, max. cable section 4 mm <sup>2</sup>	M6 mm <sup>2</sup> bolts 6 flat blades
Dimensions (LxWxH)	92x59x40 mm	70x73x66 mm
Weight: appr.	0,3kg	