



## Solar charge regulator serie FOX-X20

FOX-220 and FOX-320 are adjustable charge controllers, which can be extended at any time with the remote display FOX-MD1. In addition to the over-discharge protection of the FOX-220, the FOX-320 can charge 2 separate battery banks. In combination with the remote display FOX-MD1, various parameters of the controller can be adjusted. Made in Germany.

### Product characteristics

- Overcharge protection 20A is equal to solar modules of 340 Watt 12V (680W @ 24V)
- Discharge protection or night light function adjustable (max. 20A), shut-off threshold adjustable via FOX-MD1
- **FOX-320 for 2 battery banks**
- System voltage 12V or 24V (automatically)
- Battery type can be individually set for AGM, GEL and Lead-acid batteries
- Loads are supplied always of battery 1
- Charge ratio from B1 to B2 adjustable
- Extendable with remote display FOX-MD1

FOX-220 and FOX-320 are adjustable charge controllers, which can be optionally extended at any time with the remote display FOX-MD1.

Both controllers are designed for module currents up to 20A. In addition to the over-discharge protection of the FOX-220, the FOX-320 can also load 2 separate battery banks.

The solar charge regulator serie FOX-X20 is suitable for AGM, GEL and Lead-acid batteries. Consumers can be connected up to a current consumption of 20A maximum.

The optimised charge characteristic curve in combination with the hardware PWM control achieves a distinctly faster and gentler charging of the battery. Hazardous gassing or overcharging are safely prevented. The size of the heat sink is also dimensioned for high environmental temperatures.

|                              | FOX-220                                                                   | FOX-320                                           |
|------------------------------|---------------------------------------------------------------------------|---------------------------------------------------|
| Charge of                    | 1 battery bank                                                            | up to 2 battery banks                             |
| Battery switchover           | none                                                                      | Relay bistable, galvanic isolated                 |
| Charge ratio                 | none                                                                      | standard 90%/10% (B1/B2), adjustable with FOX-MD1 |
| Fuses to B1, B2              | 1x25A, soldered internally                                                | 2x25A, soldered internally                        |
| System voltage               | 12V/24V, automatic detection, both battery banks similar                  |                                                   |
| - Detection 12V              | $U_{\text{battery 1}}: 6V \dots 17V \Rightarrow 12V \text{ system}$       |                                                   |
| - Detection 24V              | $U_{\text{battery 1}}: \text{larger } 17V \Rightarrow 24V \text{ system}$ |                                                   |
| System operating voltage     | 8,5V ... 35V                                                              |                                                   |
| Temp. compensation           | -20mV/°K @12V, -40mV/°K @24V                                              |                                                   |
| PWM frequency                | 244Hz                                                                     |                                                   |
| max terminal voltage         | 50V (open circuit voltage of the modules, $U_{oc}$ )                      |                                                   |
| Discharge protection         | max. 20A at 25°C                                                          |                                                   |
| - Shut-off threshold         | standard 10,5V, adjustable with FOX-MD1                                   |                                                   |
| - Switch-on/switch-off delay | 60 seconds                                                                |                                                   |
| Nightlight function          | max. 20A at 25°C                                                          |                                                   |
| - Switch on/switch off       | no charge current of the module/ charge current present                   |                                                   |
| - Shut-off threshold         | standard 11,25V, adjustable with FOX-MD1                                  |                                                   |
| - Time delay                 | 10 minutes                                                                |                                                   |
| Displays                     |                                                                           |                                                   |
| - Battery status display     | LED (red, yellow, green)                                                  |                                                   |
| - Charge current display     | LED (yellow)                                                              |                                                   |
| - Output status display      | LED (red, yellow, green)                                                  |                                                   |
| Terminals                    | 6 VA screws, max. 16mm <sup>2</sup>                                       | 8 VA screws, max. 16mm <sup>2</sup>               |
| Power requirement            | 12,0mA (with FOX-MD1 15,0mA, 30sec.)                                      |                                                   |
| Voltage drop                 | 0,0 ... 0,27V (between 0 ... 20A)                                         |                                                   |
| Environmental conditions     | -25°C ... +50°C, non-thawing, IP 22                                       |                                                   |
| Storing conditions           | -25°C ... +80°                                                            |                                                   |
| Weight                       | 300g                                                                      |                                                   |
| Dimensions                   | 125,9 x 107 x 54,6mm (LxWxH)                                              |                                                   |

Technical changes reserved. State 02/2013



## RANGE OF APPLICATIONS



## DIMENSIONS

