

## Overview of Charging Characteristics J019S P1221

No.	Battery voltage	Battery type	Battery capacity	I <sub>1</sub>	U <sub>1</sub>	I <sub>2</sub>	I <sub>3</sub>	U <sub>3</sub>	T <sub>I1 max</sub>	TU <sub>1 max</sub>	TU <sub>3</sub>	Note
0	12 V	FVLA	45 Ah ... 60 Ah	15 A	14.4 V	1.0 A	15 A	13.5 V	5 h	6 h	∞	
1	12 V	FVLA	60 Ah ... 80 Ah	20 A	14.4 V	1.4 A	20 A	13.5 V	5 h	6 h	∞	
2	12 V	FVLA	80 Ah ... 120 Ah	20 A	14.4 V	2.1 A	20 A	13.5 V	7 h	8 h	∞	
3	12 V	FVLA	120 Ah ... 160 Ah	20 A	14.4 V	2.8 A	20 A	13.5 V	10 h	11 h	∞	
4	12 V	FVLA	160 Ah ... 200 Ah	20 A	14.4 V	3.6 A	20 A	13.5 V	11 h	12 h	∞	
5	12 V	VRLA	45 Ah ... 60 Ah	15 A	14.1 V	0.5 A	15 A	13.6 V	5 h	6 h	∞	
6	12 V	VRLA	60 Ah ... 80 Ah	20 A	14.1 V	0.7 A	20 A	13.6 V	5 h	6 h	∞	
7	12 V	VRLA	80 Ah ... 120 Ah	20 A	14.1 V	1.1 A	20 A	13.6 V	7 h	8 h	∞	
8	12 V	VRLA	120 Ah ... 160 Ah	20 A	14.1 V	1.4 A	20 A	13.6 V	10 h	11 h	∞	
9	12 V	VRLA	160 Ah ... 200 Ah	20 A	14.1 V	1.8 A	20 A	13.6 V	11 h	12 h	∞	
A	12 V	VRLA*	45 Ah ... 60 Ah	15 A	14.4 V	0.3 A	15 A	13.8 V	8 h	6 h	∞	
B	12 V	VRLA*	60 Ah ... 80 Ah	20 A	14.4 V	0.4 A	20 A	13.8 V	8 h	6 h	∞	
C	12 V	VRLA*	80 Ah ... 120 Ah	20 A	14.4 V	0.6 A	20 A	13.8 V	8 h	8 h	∞	
D	12 V	VRLA*	120 Ah ... 160 Ah	20 A	14.4 V	0.8 A	20 A	13.8 V	10 h	11 h	∞	
E	12 V	VRLA*	160 Ah ... 200 Ah	20 A	14.4 V	1.0 A	20 A	13.8 V	11 h	12 h	∞	
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**FVLA:** open lead-acid batteries, batteries with water refill

**VRLA:** Valve-regulated lead-acid batteries, maintenance-free wet batteries

**VRLA\*:** Gel batteries, AGM

### Description

1. If a temperature sensor (CTS/TS) is connected and the battery temperature is higher than 45°C, the charging current is reduced to 50%. Only when the battery temperature falls below 40°C again does the charging capacity increase to 100%.
2. If a temperature sensor (CTS/TS) is connected and the battery temperature is higher than 50°C, the charger switches off until the battery temperature is below 45°C.
3. If a temperature sensor (CTS/TS) is connected, the output voltage will be increased by 21 mV per degree if the battery temperature is below 25°C and decreased if the battery temperature is above 25°C.
4. If the time T<sub>I1 max</sub> is exceeded, the charger switches off and the red LED flashes.
5. If the time TU<sub>1 max</sub> is exceeded, the next charging phase begins automatically.

