

The Charging Algorithms of the Program FM20614m

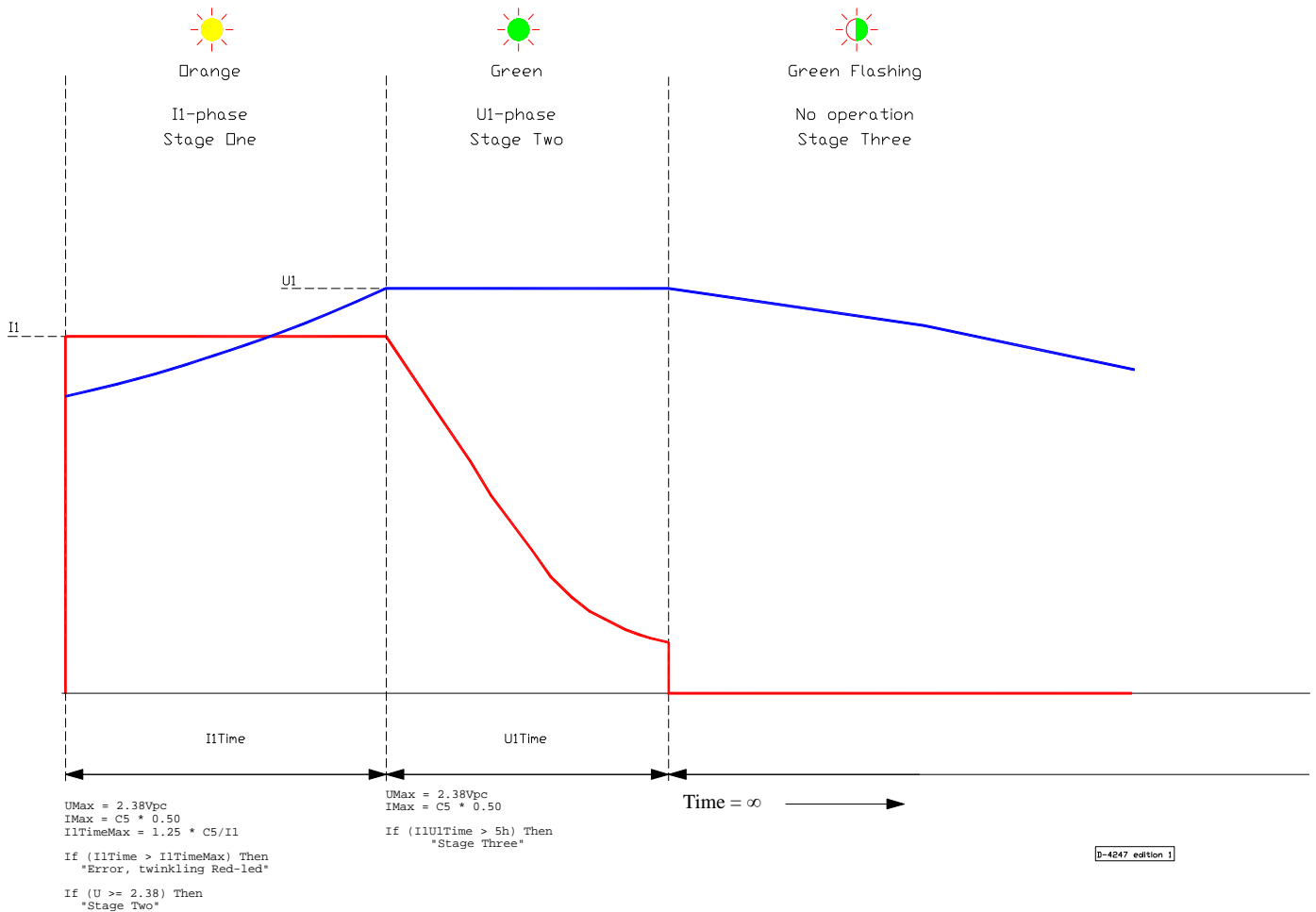
Status LED:

| | | |
|------------------------------|---|----------------|
| I1 Phase | = | orange |
| U1 Phase | = | green |
| Charging ready | = | flashing green |
| Error/ Battery not connected | = | flashing red |
| No Algorithm | = | red |
| Code switch position test | = | green flashing |

Charging algorithms for 24 V, 60 A PAC 1600:

| Switch position | Battery Voltage | Battery type | Max Charging Current = I1 | Battery capacity |
|-----------------|-----------------|--------------|---------------------------|------------------|
| 0 | | | NO ALGORITHM | |
| 1 | 24 V | TPPL | 40,0 A | 75-85 Ah |
| 2 | 24 V | TPPL | 45,0 A | 86-95 Ah |
| 3 | 24 V | TPPL | 50,0 A | 96-105 Ah |
| 4 | 24 V | TPPL | 55,0 A | 106-115 Ah |
| 5 | 24 V | TPPL | 60,0 A | 116-125 Ah |
| 6 | | | NO ALGORITHM | |
| 7 | | | NO ALGORITHM | |
| 8 | | | NO ALGORITHM | |
| 9 | | | NO ALGORITHM | |
| 10 = A | | | NO ALGORITHM | |
| 11 = B | | | NO ALGORITHM | |
| 12 = C | | | NO ALGORITHM | |
| 13 = D | | | NO ALGORITHM | |
| 14 = E | | | NO ALGORITHM | |
| 15 = F | | | NO ALGORITHM | |

TPPL Battery



Charging Curve for TPPL batteries:

| Switch position | Battery capacity | Voltage U1 V/Cell | Current I1 | Max. I1U1 Time |
|-----------------|------------------|-------------------|------------|----------------|
| 1 | 75-85 Ah | 2,38V | 40,0 A | 5,0h |
| 2 | 86-95 Ah | 2,38V | 45,0 A | 5,0h |
| 3 | 96-105 Ah | 2,38V | 50,0 A | 5,0h |
| 4 | 106-115 Ah | 2,38V | 55,0 A | 5,0h |
| 5 | 116-125 Ah | 2,38V | 60,0 A | 5,0h |
| | | | | |
| | | | | |

Charger starts if battery voltage is between 1,65Vpc and 2,9Vpc.

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Other rules:

- **Note!**

Charging voltage is compensated depending on battery's temperature.

If Temperature sensor is connected to charger terminal (Temp/Sense).

$$U = V - 0.004 * C * (T - 25)$$

Where:

U = Output voltage

V = Voltage on the table

C = Cell number

T = Battery's temperature in Celsius

Temperature compensation working between -15°C and +52°C.

If the temperature is out of this area charger alarm (Blink Red LED) and stop charging.

NOTE! -6°C is maximum temperature compensation.

(Same compensation between -15°C to -6°C)