



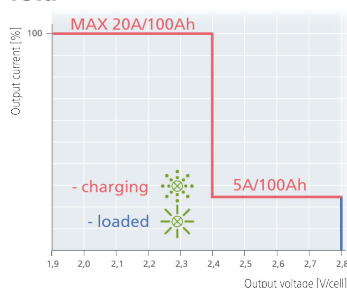
# FORTIS mini

## Compact high-frequency charger with robust construction

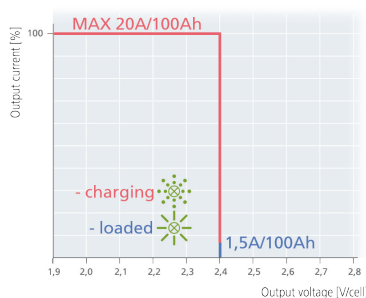
- Meets hard requirements for three shift operation in industrial areas
- Suitable for the recharge of lead acid, gel and AGM batteries
- Easy setting of battery capacity and charging curve by one button
- LED signaling of charging phases

## Charging curves

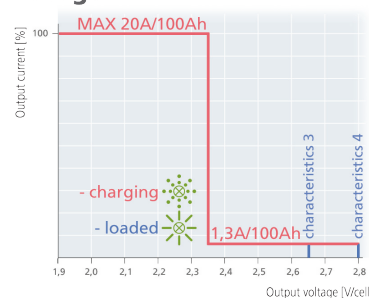
IUIa



IUIa



IUIa-gel



## Charging characteristics - all types

| Charging curve setting – Number of red LED blinks |         |               |             |      |
|---------------------------------------------------|---------|---------------|-------------|------|
| 1                                                 | 2       | 3             | 4           | 5    |
| IUIa dU                                           | IUIa CF | IUIa GEL 2,65 | IUIa GEL Ex | IUIa |

## Charging characteristics – for 36Exx and 48Exx types only

| Nominal voltage setting – number of red and green LED flashes |     |
|---------------------------------------------------------------|-----|
| 1                                                             | 2   |
| 48 V                                                          | 36V |

## Battery capacity setting

| TYPE                                  | Battery capacity setting (Ah) – Number of green LED blinks |     |     |     |     |     |     |     |     |
|---------------------------------------|------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
|                                       | 1                                                          | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   |
| FORTIS mini 24E20 / FORTIS mini 12E20 | 65                                                         | 75  | 85  | 105 | 120 | 135 | 150 | 180 | 210 |
| FORTIS mini 24E30 / FORTIS mini 12E30 | 105                                                        | 120 | 135 | 150 | 180 | 210 | 240 | 270 | 300 |
| FORTIS mini 24E40 / FORTIS mini 12E40 | 135                                                        | 150 | 180 | 210 | 240 | 270 | 300 | 345 | 375 |
| FORTIS mini 24E50                     | 210                                                        | 240 | 270 | 300 | 345 | 375 | 420 | 465 | 500 |
| FORTIS mini 24E60                     | 270                                                        | 300 | 345 | 375 | 420 | 465 | 500 | 560 | 620 |
| FORTIS mini 36E30                     | 100                                                        | 140 | 180 | 240 | 270 | 300 | 320 | 345 | 360 |
| FORTIS mini 36E50                     | 270                                                        | 300 | 320 | 360 | 420 | 465 | 500 | 560 | 640 |
| FORTIS mini 48E30                     | 100                                                        | 140 | 180 | 240 | 270 | 300 | 320 | 345 | 360 |
| FORTIS mini 48E50                     | 270                                                        | 320 | 345 | 375 | 420 | 465 | 500 | 560 | 625 |

Charging time

up to 8 hours



8–10 hours



10–12 hours



## TECHNICAL PARAMETERS

| INPUT                                    | FORTIS<br>mini<br>24E20 /<br>12E20 | FORTIS<br>mini<br>24E30 /<br>12E30 | FORTIS<br>mini<br>24E40 /<br>12E40 | FORTIS<br>mini<br>24E50 | FORTIS<br>mini<br>24E60 | FORTIS<br>mini<br>36E30 / 48E30 | FORTIS<br>mini<br>36E50 / 48E50 |
|------------------------------------------|------------------------------------|------------------------------------|------------------------------------|-------------------------|-------------------------|---------------------------------|---------------------------------|
| Input voltage range                      | 1f 230V, ±15%, 50/60Hz             |                                    |                                    |                         |                         |                                 |                                 |
| Input current                            | 4,5A / 2,4A                        | 4,2A/<br>2,3A                      | 5,9A /<br>3,1A                     | 7,3A                    | 8,5A                    | 6,4A/ 10,8A                     | 8,2A/ 14,2A                     |
| Inrush current                           | <30A, 5ms                          | < Inom                             |                                    |                         |                         |                                 |                                 |
| Recommended<br>circuit<br>breaker type C | 10A                                | 10A / 6A                           |                                    | 10A                     |                         |                                 | 16A                             |
| Power factor                             | 0,7                                | 0,99                               |                                    |                         |                         |                                 |                                 |

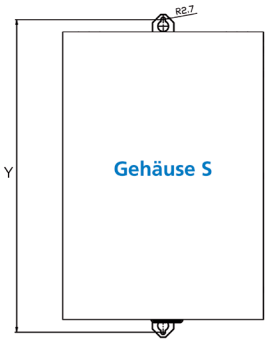
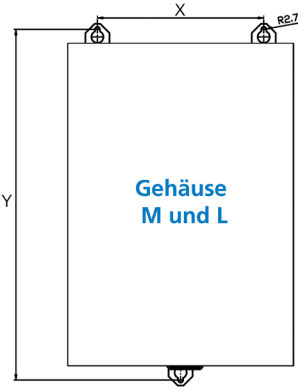
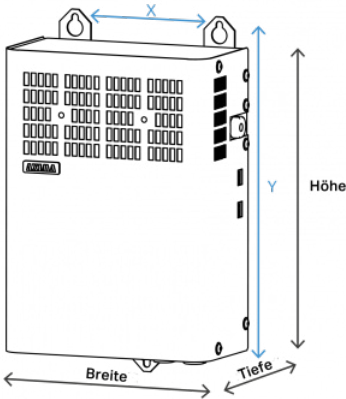
| OUTPUT                   | FORTIS mini 24E20 / 12E20 | FORTIS mini 24E30 / 12E30 | FORTIS mini 24E40 / 12E40 | FORTIS mini 24E50 | FORTIS mini 24E60 | FORTIS mini 36E30 / 48E30 | FORTIS mini 36E50 / 48E50 |
|--------------------------|---------------------------|---------------------------|---------------------------|-------------------|-------------------|---------------------------|---------------------------|
| Output voltage           | 24V / 12V                 |                           |                           | 24V               |                   | 36V / 48V                 |                           |
| Maximal output current   | 20A                       | 30A                       | 40A                       | 50A               | 60A               | 30A                       | 50A                       |
| Output voltage tolerance | ±1%                       |                           |                           |                   |                   |                           |                           |
| Output current tolerance | ±2%                       |                           |                           |                   |                   |                           |                           |
| Efficiency               | aż 92%                    | aż 94%                    |                           | aż 91%            |                   |                           |                           |

| SAFETY, STANDARDS      |              |
|------------------------|--------------|
| Safety (LVD)           | EN 62368-1   |
| EMC resistance         | EN 61000-6-2 |
| EMC emissions 12/24E20 | EN 61000-6-3 |
| EMC emissions 14/24E30 | EN 61000-6-4 |
| EMC emissions 14/24E40 |              |
| EMC emissions 24E50    |              |
| EMC emissions 24E60    |              |
| EMC emissions 36/48E30 |              |
| EMC emissions 36/48E50 |              |
| Degree of protection   | IP20         |

| STORAGE, WORKING ENVIRONMENT |                                                              |
|------------------------------|--------------------------------------------------------------|
| Storage                      | in dry areas -25°C to +80°C, max. relative humidity 80%      |
| Working environment          | -10°C to +40°C, max. relative humidity 80%, non condensating |

Dimmensions (mm)

| TYPE                                  | CASE | H   | W   | D  | X   | Y   | WEIGHT (kg) |
|---------------------------------------|------|-----|-----|----|-----|-----|-------------|
| FORTIS mini 24E20 / FORTIS mini 12E20 | S    | 202 | 155 | 80 | 0   | 236 | 3           |
| FORTIS mini 24E30 / FORTIS mini 12E30 | M    | 234 | 174 | 90 | 120 | 268 | 4           |
| FORTIS mini 24E40 / FORTIS mini 12E40 | M    | 234 | 174 | 90 | 120 | 268 | 4           |
| FORTIS mini 24E50                     | L    | 349 | 267 | 92 | 180 | 380 | 6,5         |
| FORTIS mini 24E60                     | L    | 349 | 267 | 92 | 180 | 380 | 6,5         |
| FORTIS mini 36E30 / FORTIS mini 36E50 | L    | 349 | 267 | 92 | 180 | 380 | 7           |
| FORTIS mini 48E30 / FORTIS mini 48E50 | L    | 349 | 267 | 92 | 180 | 380 | 7           |





Charging time:  
standard batteries from 6,5 to 12 hours  
gel batteries from 8 to 14 hours



Battery:  
voltage 24 V and 12V (24E60 only 24V)  
voltage 36 V and 48 V (for types 36Exx and 48Exx)  
capacity from 65 Ah to 640 Ah