

The robust regulated 50Hz charging system for all battery types



Multiple applications

- ▶ For single and multi shift operation
- ▶ Suitable for opportunity charging with air circulation (AEM)
- ▶ Charging technology for flooded and sealed batteries
- ▶ Compatible to battery controller- and management systems
- ▶ Universal adjustment for all traction applications

Charger type	Characteristics	Charging time
<i>miditron top</i>	IUIa	7,5 – 14 h
<i>miditron top</i>	IUIa with air mix (AEM)	5,5 – 12 h
<i>miditron top</i>	IUIa E-Pulse®	7,5 – 14 h
<i>miditron top</i>	Special charging characteristics for flooded and sealed batteries	Battery dependent

Technology and characteristics

- ▶ Regulated IUIa characteristic in 50Hz thyristor technology
- ▶ Charging characteristic independent of mains voltage variation
- ▶ Improved charge in cold store application
- ▶ Low energy and maintenance costs due to E-Pulse®-characteristic
- ▶ Ampere hour balanced charging process
- ▶ Automatic and manual equalising charge
- ▶ Automatic maintenance charge during longer periods of nominal usage
- ▶ Adaption to voltage behaviour of sulphated batteries during charge
- ▶ Memory and analysis of the last of the last 62 data accessible via InfraComm
- ▶ Electromagnetic compatibility and safety in accordance to EMC guidelines
- ▶ Acid resistant front label

Operation and display

- ▶ Automatic start, charging process and shut-off
- ▶ Fully automatic charging process
- ▶ Clear display of the charging and operational state by LC-Display and LEDs
- ▶ Flexible configuration via InfraComm









Safety

- ▶ Reverse polarity protection
- ▶ Automatic battery and charge parameter check prior to start of charging process
- ▶ Automatic start of charge after a safety delay
- ▶ Charge procedure check in the event of irregular battery behaviour
- ▶ Automatic shut-off of the charger after disconnecting the battery
- ▶ Thermal monitoring of the transformer
- ▶ Control for electrolyte circulation. Switch over to a standard charging factor if a pressure fault is detected.












Your benefits

- ▶ Charging characteristic independent of mains voltage variation
- ▶ Long lasting due to robust built
- ▶ Energy saving due to high power efficiency
- ▶ Special diagrams and free programmable charging characteristics
- ▶ Storage and analysis of charge data with InfraComm
- ▶ Using for AGV-application

Standard features

-  Softstart^(DGBM)
-  LED-operation status
-  LC-Display with clear text manager
-  Menu button included
-  InfraComm^{®(DGBM)}-Interface
-  E-Pulse[®]-characteristic
-  Automatic equalising charge
-  Maintenance charge

Options

-  Battery plug
-  Air mix (AEM)
-  Special charging characteristic
-  Automatic water refill
-  External ON / OFF
-  Remote display
-  Characteristic for cold store operation
-  External signalling
-  BICaT-capability
-  Management capability
-  AGV-application

Type table

U	PzS Batteries						PzV(*) Sealed battery	Charger type	Housing type	Weight gross	Power rating
	Standard IUI-charge procedure			E-Pulse charge procedure							
	Charging time acc. to battery capacity (Ah) ⁽¹⁾			Charging time acc. to battery capacity (Ah) ⁽¹⁾							
AEM	7,5-8,5 h 5,5-6,5 h	9 - 11 h 7- 9 h	12 - 14 h 10- 12 h	7,5-8,5 h	9 - 11 h	12 - 14 h	Charge time 10-14 h		approx. kg	approx. kVA	
24V	140-179	200-259	330-379	200-259	256-339	345-379	210-279	E 24/30	G2-3	40	1,6
	180-234	260-329	380-459	260-329	340-429	380-529	280-359	E 24/40	G2-3	43	2,2
	235-284	330-419	460-549	330-399	430-529	530-649	360-449	E 24/50	G2-3	47	2,7
	285-349	420-499	550-649	400-499	530-659	650-799	450-559	E 24/60	G2-3	47	3,2
	350-479	500-679	650-949	500-659	660-859	800-1099	560-719	D 24/80	G3-3	60	4,3
	480-584	680-849	950-1149	660-799	860-1069	1100-1349	720-899	D 24/100	G3-3	65	5,4
	585-739	850-999	1150-1449	800-999	1070-1299	1350-1649	900-1099	D 24/125	G3-3	70	6,8
	740-849	1000-1149	1450-1759	1000-1199	1300-1599	1650-1999	1100-1299	D 24/150	G3-3	80	8,1
	850-1049	1150-1299	1760-1999	1200-1399	1600-1799	2000-2299	1300-1499	D 24/180	G4-3	90	9,7
	1050-1200	1300-1700	2000-2200	1400-1600	1800-2160	2300-2550	1500-1800	D 24/200	G4-3	105	10,8
36V	140-179	200-259	330-379	200-259	256-339	345-379	210-279	E 36/30	G2-3	48	2,4
	180-234	260-329	380-459	260-329	340-429	380-529	280-359	E 36/40	G2-3	53	3,2
	235-284	330-419	460-549	330-399	430-529	530-649	360-449	D 36/50	G2-3	61	4,1
	285-349	420-499	550-649	400-499	530-659	650-799	450-559	D 36/60	G3-3	65	4,9
	350-479	500-679	650-949	500-659	660-859	800-1099	560-719	D 36/80	G3-3	70	6,5
	480-584	680-849	950-1149	660-799	860-1069	1100-1349	720-899	D 36/100	G3-3	85	8,1
	585-739	850-999	1150-1449	800-999	1070-1299	1350-1649	900-1099	D 36/125	G3-3	100	10,2
	740-849	1000-1149	1450-1759	1000-1199	1300-1599	1650-1999	1100-1299	D 36/150	G4-3	115	12,2
	850-1049	1150-1299	1760-1999	1200-1399	1600-1799	2000-2299	1300-1499	D 36/180	G4-3	120	14,6
	1050-1200	1300-1700	2000-2200	1400-1600	1800-2160	2300-2550	1500-1800	D 36/200	G4-3	125	16,2
48V	140-179	200-259	330-379	200-259	256-339	345-379	210-279	E 48/30	G2-3	48	3,2
	180-234	260-329	380-459	260-329	340-429	380-529	280-359	D 48/40	G3-3	56	4,3
	235-284	330-419	460-549	330-399	430-529	530-649	360-449	D 48/50	G3-3	61	5,4
	285-349	420-499	550-649	400-499	530-659	650-799	450-559	D 48/60	G3-3	65	6,5
	350-479	500-679	650-949	500-659	660-859	800-1099	560-719	D 48/80	G3-3	104	8,7
	480-584	680-849	950-1149	660-799	860-1069	1100-1349	720-899	D 48/100	G4-3	106	10,8
	585-739	850-999	1150-1449	800-999	1070-1299	1350-1649	900-1099	D 48/125	G4-3	124	13,5
	740-849	1000-1149	1450-1759	1000-1199	1300-1599	1650-1999	1100-1299	D 48/150	G4-3	126	16,2
	850-1049	1150-1299	1760-1999	1200-1399	1600-1799	2000-2299	1300-1499	D 48/180	G4-3	130	19,5
	1050-1200	1300-1700	2000-2200	1400-1600	1800-2160	2300-2550	1500-1800	D 48/200	G4-3	135	21,7
80V	140-179	200-259	330-379	200-259	256-339	345-379	210-279	D 80/30	G3-3	90	5,4
	180-234	260-329	380-459	260-329	340-429	380-529	280-359	D 80/40	G3-3	95	7,2
	235-284	330-419	460-549	330-399	430-529	530-649	360-449	D 80/50	G3-3	98	9,0
	285-349	420-499	550-649	400-499	530-659	650-799	450-559	D 80/60	G4-3	106	10,8
	350-479	500-679	650-949	500-659	660-859	800-1099	560-719	D 80/80	G4-3	125	13,3
	480-584	680-849	950-1149	660-799	860-1069	1100-1349	720-899	D 80/100	G4-3	130	18,0
	585-739	850-999	1150-1449	800-999	1070-1299	1350-1649	900-1099	D 80/125	G4-3	160	22,6
	740-849	1000-1149	1450-1759	1000-1199	1300-1599	1650-1999	1100-1299	D 80/150	GU-06	250	27,1
	850-1049	1150-1299	1760-1999	1200-1399	1600-1799	2000-2299	1300-1499	D 80/180	GU-08	270	26,4
	1050-1200	1300-1700	2000-2200	1400-1600	1800-2160	2300-2550	1500-1800	D 80/200	GU-08	280	29,3

Code letter E: Single phase AC 230V, 50/60Hz (1/N/PE)
Code letter D: Three phase AC 400V, 50/60Hz (3N/PE)

(1) Standard values, observe recommendations of battery manufacturers

(*) Depending on the specification of the battery manufacturer

Technical modifications reserved

Housing	Dimensions		
	Height	Width	Depth
G2-3	370 mm	575 mm	380 mm
G3-3	680 mm	575 mm	440 mm
G4-3	680 mm	575mm	530mm
GU-06	1425 mm	600 mm	600 mm
GU-08	1425 mm	800 mm	600 mm

Housings G2-3 up to G4-3 suitable for floor and wall mounting
Housings GU-06 and GU-08 for floor installation only
Customer solutions and higher output power on request