Kraftelektronik AB

Constant Voltage Charger type KL

Constant voltage charger type KL for initial and trickle charging of stationary lead-acid or NiCd batteries.

- **Charging by IU-characteristic**
  the voltage is kept constant up to the rated current
- **Instrumentation**
  voltmeter and ammeter
- **Monitoring**
  by monitoring board of plug-in type (option) or externally located monitoring type KraftMaster
- **Robust design**
  for industrial environments, meets the EMC demans in light and heavy industry
- **Easy to serve**
  all control and monitor boards are of plug-in type
- **Our product range for uninterruptible power**
  also covers inverters, distribution board and batteries

ISO 9001 certificated

KRAFT

CE

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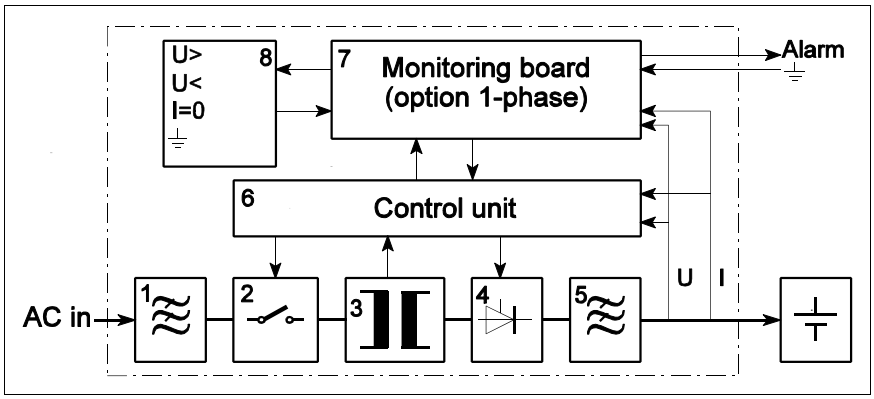
Working principle

The mains is supplied through an RFI-filter (1) and a switch/contactor (2) and to the main transformer unit (3). The transformer provides galvanic insulation and sets the voltage to the battery system level. The voltage is rectified and regulated in the SCR unit (4) to appropriate level responding to the command from the control unit (6). The rectified voltage is smoothed in an LC filter (5). The output voltage (U) and current (I) are fed back to the control unit. The monitoring board (7) consists of over and undervoltage, charging interruption and earth fault detection. The alarm functions are indicated on the front panel and the remote alarm relay can be delayed 1s-60 min.



Block diagram

Technical data

Control principle: SCR controlled
Power requirements:
1-ph: 230V+10/-15% 45-65Hz
3-ph: 3x400V+10/-15% 47-63Hz
Power factor: approx 0,8 at full load
Degree of enclosure protection:
IP21 according to SS EN 60529
Ambient temperature: 0 - 40EC
EMC, immunity: SS EN 50082-2
EMC, emssion: SS EN 50081-1, -2
>18kw SS EN 50081-2
Regulation accuracy:
Voltage: ±0.5%
Current: ±2%
Ripple voltage (without battery):
<2% RMS of rated voltage
<5% p-p of rated voltage
Ripple current (RMS):
<10% of nominal current
Alarm setting accuracy:
±0.5% of nominal value
Terminal size:
The terminal size for remote alarm is 2,5 mm^2.

Size of terminals for mains and DC output, see further in table below.

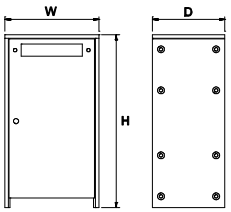
Options

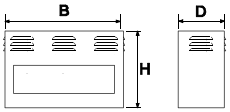
Monitoring board (1-phase)
Interface KraftMaster monitoring (3-phase)
Heavy duty enclosure IP54 for wall cabinet and IP43 for floor cabinet
Tropical design
Mains input 3x415-500VAC

According to customers specification by request

DC data		Mains data for 230V 1-phase 50-60Hz			Efficiency at full load	Mains terminal size	Battery terminal size	Enclosure	Weight
Rated voltage (V)	Rated current (A)	Mains power (VA)	Mains current (A)	External fuse (A slow)	%	mm^2	mm^2		(kg)
12	10	285	1,3	6	70	10	10	LK	15
	15	420	1,9	6	71	10	10	MK	17
	20	600	2,9	6	72	10	35	SK	22
	30	860	3,9	10	76	10	35	XSK	35
	50	1410	6,4	16	78	10	35	G1	52
	75	2230	9,7	16	79	10	70	G1	60
	100	2990	11,0	16	81	10	70	G1	67
24	5	265	1,2	6	76	10	10	LK	12
	10	505	2,3	10	77	10	10	MK	18
	20	1035	4,7	10	81	10	35	SK	28
	35	1780	8,1	16	84	10	35	XSK	47
	50	2390	10,4	16	82	10	35	G1	64
	75	3800	16,5	20	84	10	70	G1	71
	100	4940	21,5	35	85	16	70	G1	77
48	5	485	2,2	10	81	10	10	MK	17
	10	970	4,4	10	85	10	16	SK	28
	25	2420	11,0	16	88	10	35	G1	65
	50	5060	22,0	35	90	16	35	G1	74
60	5	550	2,5	10	82	10	10	MK	17
	10	1100	5,0	10	86	10	35	SK	28
	25	2750	12,5	10	90	10	35	G1	65
110	5	1055	4,8	10	87	10	16	SK	30
	10	2110	9,6	16	90	10	16	XSK	44
	15	3170	14,4	20	91	10	16	G1	67
	20	3930	17,1	25	91	16	35	G1	75
	25	4830	21,0	35	91	16	35	G1	81
220	5	2000	9,1	16	89	10	16	XSK	44
	10	4000	18,2	20	89	16	16	G1	67
	15	5860	25,5	35	90	35	35	G1	78

DC data		Mains data for 400V 3-phase 50-60Hz			Efficiency at full load	Mains terminal size	Battery terminal size	Enclosure	Weight
Rated voltage (A)	Rated current (A)	Mains power (VA)	Mains current (A)	External fuse (A slow)	%	mm^2	mm^2		(kg)
24	50	2450	3,5	6	91	10	35	G11	115
	75	3800	5,5	10	91	10	70	G11	122
	100	4850	7	10	91	10	70	G11	130
	150	7300	10,5	16	91	10	150	G11	142
	200	9700	14	16	90	10	150	G12	166
	300	14900	21,5	25	90	10	240	G12	195
	400	19800	28,5	35	91	10	240	G12	230
48	50	4500	6,5	10	91	10	35	G11	130
	75	6600	9,5	16	91	10	70	G11	142
	100	9000	13	20	91	10	70	G11	156
	150	13150	19	25	91	10	150	G11	182
	200	17700	25,5	35	91	16	150	G12	221
	300	27000	39	50	91	16	240	G12	340
	400	36000	52	63	91	35	240	G12	410
110	25	4500	6,5	10	92	10	35	G11	135
	50	9000	13	20	93	10	35	G11	160
	75	13500	19,5	25	93	16	70	G11	195
	100	17700	25,5	35	93	16	70	G11	220
	150	26700	38,5	50	93	16	150	G12	250
	200	35350	51	63	93	35	150	G12	335
	250	45050	65	100	94	150	240	G22	450
	300	54020	78	100	94	150	240	G22	570
	400	72050	104	125	94	150	240	G22	650
125	25	4850	7	10	92	10	35	G11	140
	50	9700	14	20	93	10	35	G11	165
	75	14550	21	35	93	16	70	G11	200
	100	19400	28	35	94	16	70	G11	225
	150	29450	42,5	50	94	16	150	G12	260
	200	39150	56,5	63	94	35	150	G12	350
	300	58900	85	100	93	150	240	G22	580
	400	78300	113	125	93	150	240	G22	660
220	25	9000	13	20	94	10	35	G11	158
	50	18400	26,5	35	94	16	35	G11	217
	75	27400	39,5	50	95	16	70	G12	275
	100	36400	52,5	63	95	35	70	G12	335
	150	54400	78,5	100	95	70	150	G22	520
	200	72750	105	125	96	70	150	G22	570
	250	92850	134	160	96	150	240	G22	680
	300	110850	160	200	96	150	240	G22	730
440	70	46420	67	80	95	70	70	G22s	460
	100	71360	103	125	95	150	150	G22	540
	150	106700	154	200	95	150	150	G22	730





Type	Wall mounted				Floor mounted				
Dim. in mm	LK	MK	SK	XSK	G1	G11	G12	G22s	G22
Height H	266	356	530	620	1000	1200	1650	2150	2150
Width W	390	390	390	390	570	650	650	605	805
Depth D	160	171	171	250	390	500	500	605	805

KRV101E-A

CE **ISO 9001 certificated**

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