



POWER

FLEXIS

MULTIFUNCTIONAL BATTERY CHARGER

Programmable, high-frequency modular traction batteries charger

www.axima-power.com



INTELLIGENT CHARGING



MAIN FEATURES:

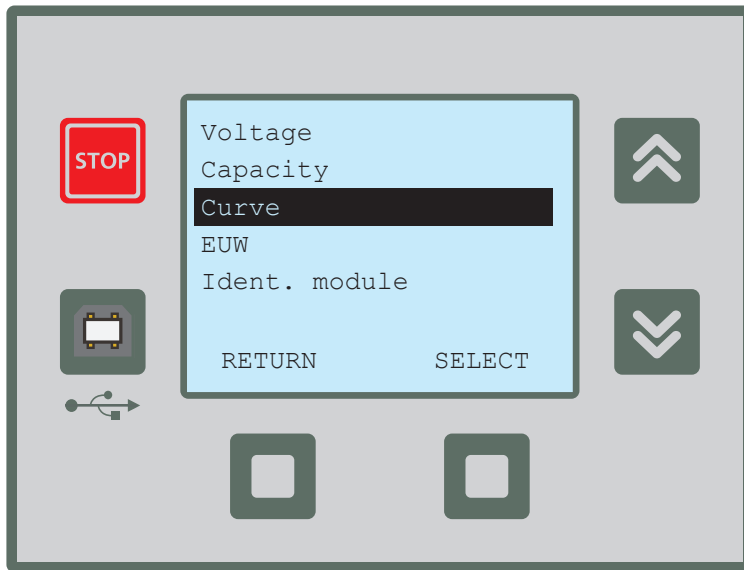
- OPPORTUNITY CHARGING
- TIME – SCHEDULED CHARGING
- AUTOMATIC BATTERY VOLTAGE AND CAPACITY RECOGNITION
- DEDICATED CHARGING CURVES FOR LITHIUM BATTERIES
- ESTIMATED TIME – TO – END – OF – CHARGING CYCLE

- LOW OPERATING COSTS
- MODULAR SYSTEM
- USER – FRIENDLY INTERFACE
- SETTINGS VIA OPERATING PANEL OR PC

- Efficiency up to 95%, power factor $\cos \varphi \sim 1$
- Active PFC and soft-start
- Verification of connected battery
- Possibility to use one charger for more different batteries
- Possibility to set up preset and custom charging curves
- High resistance to mains disturbances
- Galvanic separated output mains
- Memory for 2.000 charging cycles
- Regeneration charging - desulphation and equalization

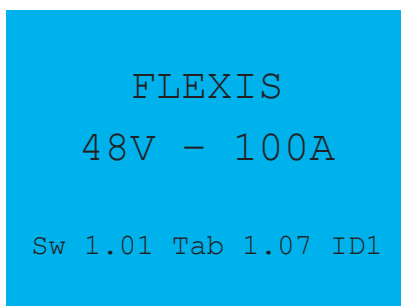
FLEXIS is a fully programmable, high-frequency traction battery charger. FLEXIS optimizes charging technology prolongs the working life of the battery, accelerates charging and saves energy. FLEXIS charger meets the hard requirements of three-shift service in industrial areas.

SIGNALING DISPLAY

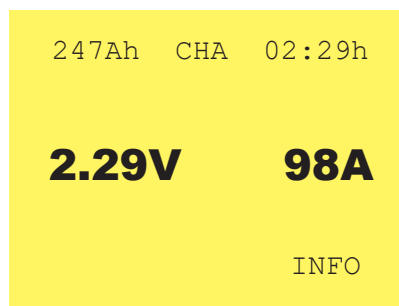


Operating panel allows to set parameters of charging – charging is adjusted to the values of battery.

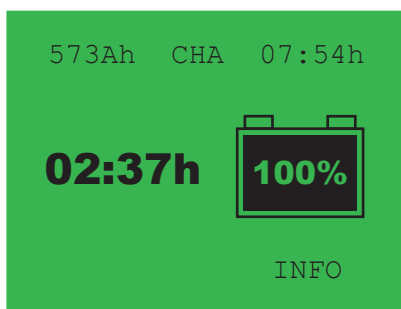
- Operating conditions are signaled by change of colour of the display important values are displayed
- Display is big and bright, all charging stages are visible from long distance and different angles
- Display shows estimated duration of the charging cycle



Standby mode



Charging



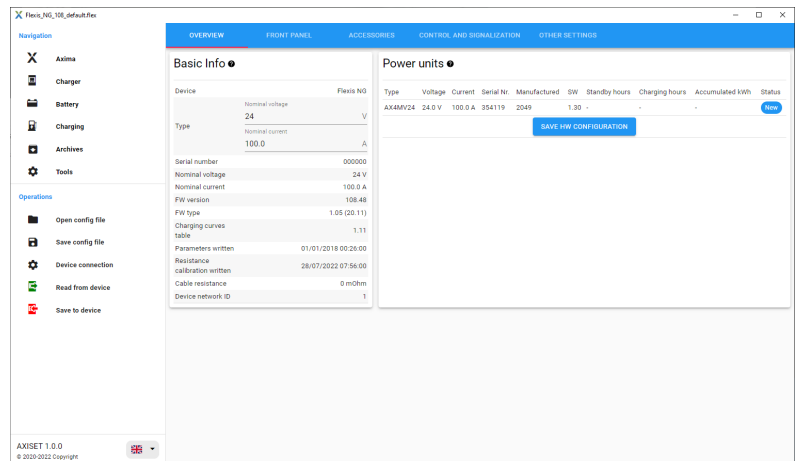
Charging finished



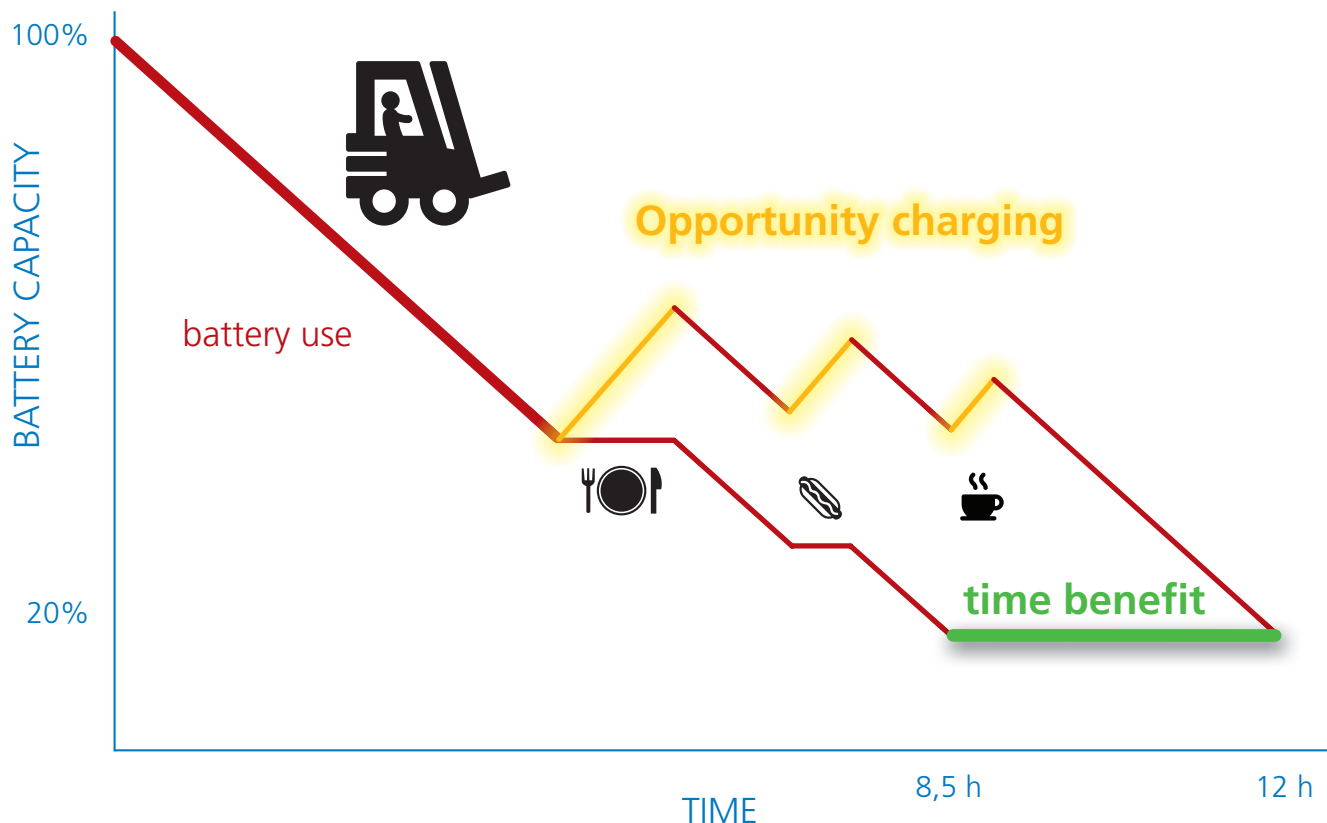
Error

CONFIGURATION SOFTWARE

- User friendly and intuitive configuration programme
- Fully adjustable charging current and voltage
- Possibility to use one charger for plenty of different batteries by manual selection
- Setting opportunity charging
- Time schedule of charging
- Automatic recognition of battery (ARB)



Opportunity charging is a way of fast battery charging by higher current than common charging. During a few short and intensive charging cycles, the time of battery service is significantly longer. Working breaks are used for opportunity charging to substantially prolong the forklift worktime without a battery exchange. This way of charging minimizes downtime in operation and increases your material handling fleet effectiveness.



Back **analysis** of charging archive optimises operating costs, helps to save electrical energy and prolongs working life of battery

Flexis_NG_108_default.flex

Navigation: Axima, Charger, Battery, Charging, Archives, Tools

Operations: New config file, Open config file, Save config file, Device connection, Read from device, Save to device

CHARGING PROCESS | CHARGING CURVES | CHARGING SCHEDULE

Curves table version: 1.11 [LOAD CURVES] [SAVE CURVES] Show all

Charging curve description				Main charging phase										Final charging phase		
Curve number	Battery type	Cell voltage [V]	Curve type	U min [V/cell]	I1 standard [A/100Ah]	I1 [A/100Ah]	t I1 max [h:m]	Reaction after t I1 max	U1 [V/cell]	t U1 min [h:m]	Max. time function period U1 [h:m]	t U1 max [h:m]	Reaction after t U1 max	I2 [A/100Ah]	dU/dt [m]	
T1	Lead acid	2.00	IUI0U dU	0	1.30	16.0	16.0	09:00	E x	2.40	00:00	tU1 - tI1	12:00	E x	5.0	35
T2	Lead acid	2.00	IUIa dU	0	1.30	16.0	16.0	09:00	E x	2.40	00:00	tU1 - tI1	12:00	E x	5.0	35
T3	Lead acid	2.00	IUI0U cf	0	1.30	16.0	16.0	09:00	E x	2.40	00:00	tU1 - tI1	12:00	E x	5.0	0
T4	Lead acid	2.00	IUIa cf	0	1.30	16.0	16.0	09:00	E x	2.40	00:00	tU1 - tI1	12:00	E x	5.0	0
T5	Lead acid	2.00	IU0U	0	1.30	16.0	16.0	09:00	E x	2.40	00:00	-	04:00	x	1.3	0
T6	Lead acid	2.00	IUI0U dU D	0	0.10	8.0	8.0	20:00	E x	2.40	00:00	-	05:00	E x	5.0	40
T7	Gel	2.00	IUI0U 265	0	1.30	16.0	16.0	09:00	E x	2.35	00:00	tU1 - tI1	12:00	E x	1.3	0
T8	Gel	2.00	IUI0U 28	0	1.30	16.0	16.0	09:00	E x	2.35	00:00	tU1 - tI1	12:00	E x	1.3	0
T9	Gel	2.00	IUI0U Ex	0	1.30	15.0	15.0	09:00	E x	2.35	00:00	tU1 - tI1	12:00	E x	1.3	0
T10	AGM	2.00	IU0U	0	1.30	16.0	16.0	09:00	E x	2.40	00:00	-	04:00	x	1.3	0

- Precise setting of the charging parameters ensures an optimal care of the battery
- Selection from the preset charging curves
- Possibility to modify extra charging curves to suit every type of battery
- Periodical regeneration – makes care of batteries easier

Flexis_NG_108_default.flex

Navigation: Axima, Charger, Battery, Charging, Archives, Tools

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OVERVIEW | FRONT PANEL | ACCESSORIES | CONTROL AND SIGNALIZATION | OTHER SETTINGS

Basic Info

Device: Flexis NG

Type: AX4MV24

Nominal voltage: 24 V

Nominal current: 100.0 A

Serial number: 000000

Nominal voltage: 24 V

Nominal current: 100.0 A

FW version: 108.48

FW type: 1.05 (20.11)

Charging curves table: 1.11

Parameters written: 01/01/2018 00:26:00

Resistance calibration written: 28/07/2022 07:56:00

Cable resistance: 0 mOhm

Device network ID: 1

Power units

Type	Voltage	Current	Serial Nr.	Manufactured	SW	Standby hours	Charging hours	Accumulated kWh	Status
AX4MV24	24.0 V	100.0 A	354119	2049	1.30	-	-	-	New

[SAVE HW CONFIGURATION]

AXISET 1.0.1 © 2020-2022 Copyright

CHARGER TYPES

Output voltage (V)	Output current (A)	Mains (VAC)	Input current (A)	Mains (A)	Input Power (VA)	Case with air pump	Case without air pump ¹	Type	Charging time	
									with air pump ²	
									6h	8h
24	60	230	8,7	10	1950	FF170	FF170	FLEXIS 24E60	308	462
	100	230	14,1	16	3250	FF170	FF170	FLEXIS 24E100	513	769
	100	3 x 400	4,9	6	3390	FF170	FF170	FLEXIS 24D100	513	769
	200	3 x 400	9,8	10	6780	FF250	FF250	FLEXIS 24D200	1026	1538
	300	3 x 400	14,7	16	10170	FF550	FF550	FLEXIS 24D300	1539	2307
	400	3 x 400	19,6	20	13560	FF550	FF550	FLEXIS 24D400	2052	3078
48	50	230	14,1	16	3250	FF170	FF170	FLEXIS 48E50	256	385
	50	3 x 400	4,9	6	3390	FF170	FF170	FLEXIS 48D50	256	385
	100	3 x 400	8,0	10	5550	FF170	FF170	FLEXIS 48D100	469	704
	150	3 x 400	12,9	16	8940	FF250	FF250	FLEXIS 48D150	726	1089
	200	3 x 400	16,0	20	11100	FF250	FF250	FLEXIS 48D200	938	1407
	250	3 x 400	20,9	25	14490	FF330	FF330	FLEXIS 48D250	1194	1791
	300	3 x 400	24,0	25	16650	FF550	FF550	FLEXIS 48D300	1407	2110
	350	3 x 400	28,9	32	20040	FF550	FF550	FLEXIS 48D350	1663	2495
80	400	3 x 400	32,0	32	22200	FF550	FF550	FLEXIS 48D400	1876	2814
	25	230	14,1	16	3250	FF250	FF170	FLEXIS 80E25	128	192
	25	3 x 400	4,9	6	3390	FF250	FF170	FLEXIS 80D25	128	192
	50	3 x 400	8,0	10	5550	FF250	FF170	FLEXIS 80D50	256	385
	75	3 x 400	12,9	16	8940	FF330	FF250	FLEXIS 80D75	385	577
	100	3 x 400	16,0	20	11100	FF330	FF250	FLEXIS 80D100	513	769
	125	3 x 400	20,9	25	14490	FF550	FF330	FLEXIS 80D125	641	962
	150	3 x 400	24,0	32	16650	FF550	FF330	FLEXIS 80D150	769	1154
	175	3 x 400	28,9	32	20040	FF550	FF550	FLEXIS 80D175	897	1346
	200	3 x 400	32,0	32	22200	FF550	FF550	FLEXIS 80D200	1026	1538
	225	3 x 400	36,9	40	25590	FF720	FF720	FLEXIS 80D225	1154	1731
	250	3 x 400	40,0	40	27750	FF720	FF720	FLEXIS 80D250	1280	1920
	275	3 x 400	44,9	50	31140	FF720	FF720	FLEXIS 80D275	1408	2112
	300	3 x 400	48,0	50	33300	FF720	FF720	FLEXIS 80D300	1536	2304
220	400	3 x 400	64,0	80	44400	FF1000	FF1000	FLEXIS 80D400	2048	3082
	24	3 x 400	8,0	10	5550	FF250	FF170	FLEXIS 220D24	123	184
	48	3 x 400	16,0	16	11100	FF330	FF250	FLEXIS 220D48	246	368
	72	3 x 400	24,0	24	16650	FF550	FF330	FLEXIS 220D72	369	554
	96	3 x 400	32,0	32	22200	FF550	FF550	FLEXIS 220D96	492	736
	120	3 x 400	40,0	40	27750	FF720	FF720	FLEXIS 220D120	615	920
	144	3 x 400	48,0	50	33300	FF720	FF720	FLEXIS 220D144	738	1104
	192	3 x 400	64,0	80	44400	FF1000	FF1000	FLEXIS 220D192	861	1288
400	12	3 x 400	8,0	10	5550	FF250	FF170	FLEXIS 400D12	61	92
	24	3 x 400	16,0	16	11100	FF330	FF250	FLEXIS 400D24	122	184
	36	3 x 400	24,0	25	16650	FF550	FF330	FLEXIS 400D36	183	276
	48	3 x 400	32,0	32	22200	FF550	FF550	FLEXIS 400D48	244	368
	60	3 x 400	40,0	40	27750	FF720	FF720	FLEXIS 400D60	305	460
	72	3 x 400	48,0	50	33300	FF720	FF720	FLEXIS 400D72	366	552

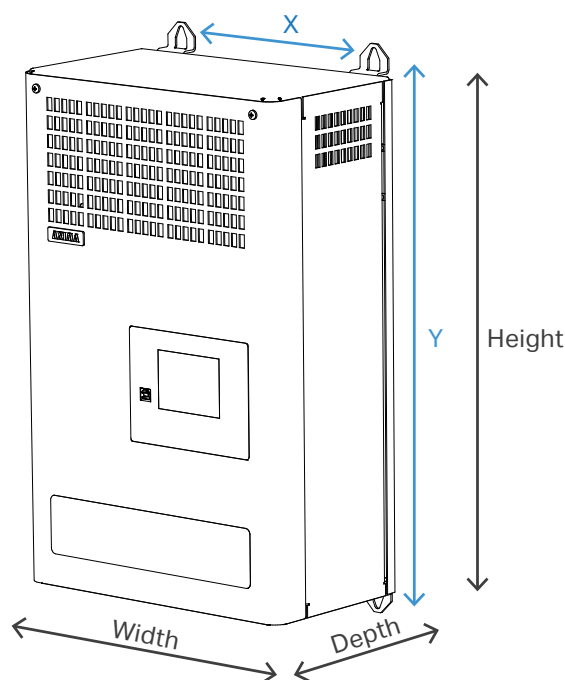
	Operating time / Battery capacity (Ah max.)			Weight (kg)	
	without air pump		gel	with air pump	without air pump
	8h	10h	10h		
2	423	571	316	18	16
3	704	952	526	18	16
4	704	952	526	19	17
8	1408	1905	1053	27	25
7	2112	2856	1578	40	38
6	2816	3808	2104	57	55
5	352	476	263	19	17
5	352	476	263	20	18
4	644	871	482	22	20
8	996	1348	745	30	28
8	1289	1743	963	32	30
3	1641	2219	1226	40	38
2	1932	2616	1446	48	46
7	2284	3092	1709	58	56
6	2576	3484	1928	62	60
2	176	238	132	20	16
3	176	238	132	21	17
5	352	476	263	24	20
7	528	714	395	32	28
9	704	952	526	34	30
2	880	1190	658	45	39
4	1056	1429	789	47	41
6	1232	1667	921	56	52
8	1408	1905	1053	58	55
1	1585	2143	1184	67	63
5	1760	2380	1315	78	74
7	1936	2618	1447	85	81
0	2112	2856	1578	87	83
0	2816	3808	2104	135	131
4	169	228	127	24	20
3	338	456	254	34	30
2	507	684	381	45	41
6	676	912	508	59	55
9	845	1140	635	70	66
4	1014	1368	762	79	75
8	1183	1596	889	136	132
	84	114	63	24	20
4	168	228	126	34	30
6	252	342	189	44	40
8	336	456	252	59	55
0	420	570	315	78	74
2	504	684	378	87	83

Efficiency	up to 94%
Output voltage stability	± 1%
Cooling	forced ventilation
Degree of protection	IP20
Operating conditions	-10°C to +40°C
Protection class	I
Standards	EN 61000-6-2 EN 61000-6-4 EN 62368-1

Dimensions for mounting on a vertical surface

Case	Width	Height	Depth	X	Y
FF170	302	477	169	230	515
FF250	302	477	254	230	515
FF330	302	477	339	230	515
FF550	547	477	339	499	515
FF720	717	477	339	699	515
FF1000	990	790	380	floor stand	

Dimensions in millimetres [mm]
X and Y are positions of mounting holes



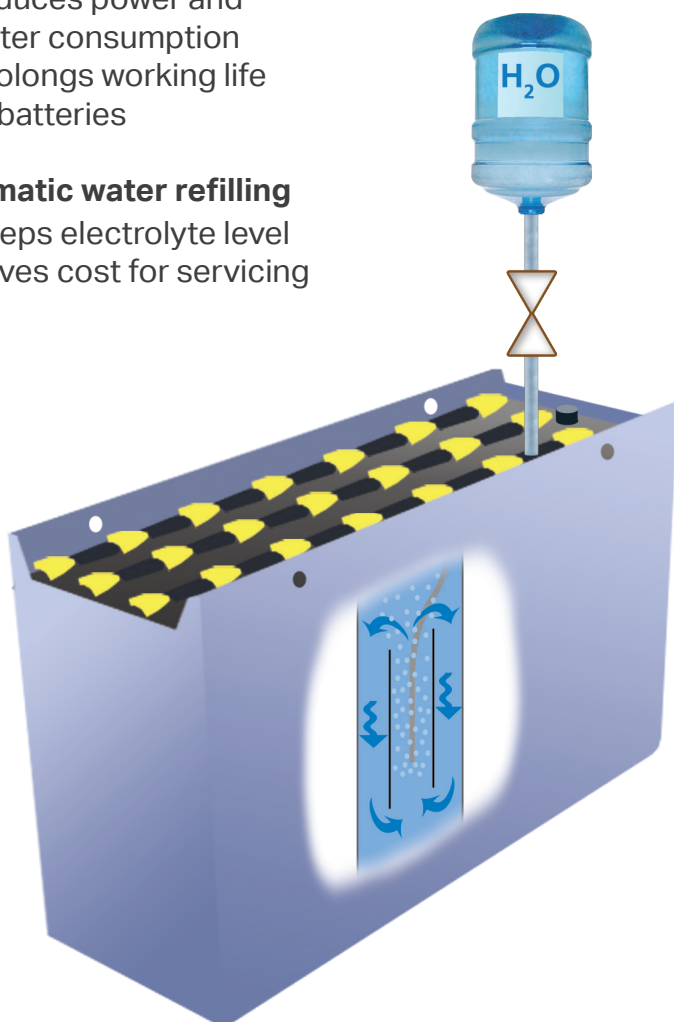
OPTIONAL EQUIPMENT

Air electrolyte circulation

- reduces charging time
- reduces power and water consumption
- prolongs working life of batteries

Automatic water refilling

- keeps electrolyte level
- saves cost for servicing



Battery identification module AXIM

- one charger for more batteries



Temperature sensor

- compensation of charging voltage according to battery temperature



External signaling

- outputs for signal column
- 3 potential-free contacts for signaling

Remote control

- 2 digital inputs for remote control