Aytemiz MAKELSAN®
Uninterruptible Power Supplies/Generator

POWER FORLIFE

6-FM SERIES

12V 7Ah-200Ah

AGM VRLA BATTERY



UNIQUE TECHNOLOGY, POWER CAPACITY, CELL CONSISTENCY, AND LONG-TERM RELIABILITY.

APPLICATIONS

- Uninterruptible Power Supplies (UPS)
- Emergency Lighting Systems
- Test and Measurement Instruments
- Telephone Exchanges
- Cable Television Systems
- Solar Energy Systems
- Wind Energy Systems
- Communication Devices
- Fire Alarm Systems
- Railways
- Marine and Traffic Systems
- Electronic Cash Registers
- Radio Telecommunication Equipment
- Electronic Devices
- Electronic Toys and Battery-Powered Vehicles
- ATM Machines
- Marine Equipment

Model	Nominal Voltage	Capacity	
6-FM-7	12	7Ah	C_{20}
6-FM-9	12	9Ah	C_{20}
6-FM-10	12	10Ah	C_{20}
6-FM-12	12	12Ah	C_{20}
6-FM-17	12	17Ah	C_{20}
6-FM-18	12	18Ah	C_{20}
6-FM-24	12	24Ah	C_{20}
6-FM-38	12	38Ah	C_{20}
6-FM-50	12	50Ah	C_{20}
6-FM-65	12	65Ah	C_{20}
6-FM-80	12	80Ah	C_{20}
6-FM-100	12	100Ah	C_{20}
6-FM-120	12	120Ah	C_{10}
6-FM-150	12	150Ah	C_{10}
6-FM-200	12	200Ah	C_{10}
6-FM-7Ah/Plus	12	7Ah	C_{20}
6-FM-8Ah/Plus	12	9Ah	C_{8}

FEATURES

- Fully sealed dry type
- Easy transportation
- Maintenance-free design
- Wide operating temperature range
- Durable casing
- Long service life

STANDARDS

- IEC 60896 Compliant with Standards,
- AB Battery Directive
- UL,CE,TSE Certified

Aytemiz Kesintisiz Güç Kaynakları A.Ş.

İstanbul Deri OSB Alsancak Sk. No: 8/A 34956 Tuzla - İstanbul / TÜRKİYE
Tel: 444 29 86 Fax: +90 216 327 51 64 www.makelsan.com.tr

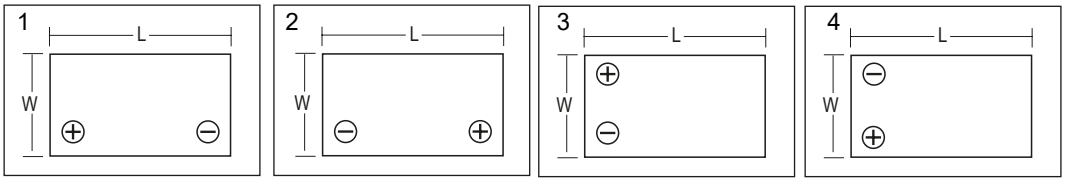
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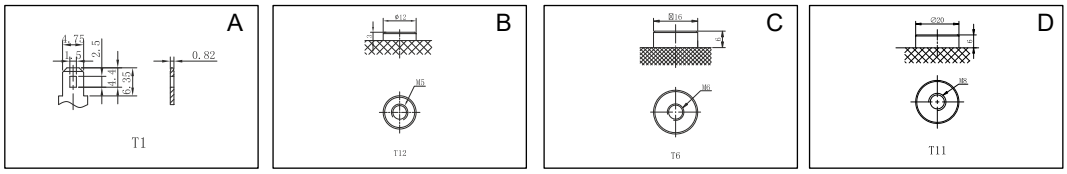
General Specifications

MAKELSAN CODE	Manufacturer Code	Model	Nominal Ah(C20)	Country	Dimensions (mm) L	W	H	Weight (kg)	Terminal	Internal Resistance mOhm	Design Life (20–25 Years)	Layout
MTSE00071220H	LP12-7.0	6-FM-12V-7Ah	1,75VDC/ 0,35	CHINA/MALAYSIA	151	65	93,5	1,97	A	33	10	3
MTSE00091220H	LP12-9.0	6-FM-12V-9Ah	1,75VDC/ 0,45	CHINA/MALAYSIA	151	65	93,5	2,52	A	17	10	3
MTSE00121220H	LP12-12	6-FM-12V-12Ah	1,75VDC/ 0,60	CHINA/MALAYSIA	151	98	95	3,24	A	19	10	3
MTSE00181220H	LP12-18	6-FM-12V-18Ah	1,75VDC/ 0,90	CHINA/MALAYSIA	181,5	76,5	167,5	5,35	B	16	10	2
MTSE00241220H	LP12-24	6-FM-12V-24Ah	1,75VDC/ 1,20	CHINA/MALAYSIA	175	166	125	7,2	B	18	10	4
MTSE00261220H	LP12-26	6-FM-12V-26Ah	1,75VDC/ 1,30	CHINA/MALAYSIA	175	166	125	7,8	B	14	10	4
MTSE00281220H	LP12-28	6-FM-12V-28Ah	1,70VDC/ 1,49	CHINA/MALAYSIA	175	166	125	8,2	B	11	10	4
MTSE00401220H	LP12-38	6-FM-12V-40Ah	1,80VDC/ 2,00	CHINA/MALAYSIA	197	165	170	12	C	10	10	2
MTSE00551220H	LP12-50	6-FM-12V-55Ah	1,60VDC/ 2,74	CHINA/MALAYSIA	257	132	200	15,7	C	9	10	1
MTSE00651220H	LP12-60	6-FM-12V-65Ah	1,70VDC/ 3,26	CHINA/MALAYSIA	348	167	178	18,5	C	7,4	10	1
MTSE00801220H	LP12-75	6-FM-12V-80Ah	1,70VDC/ 4,02	CHINA/MALAYSIA	260	168	208	22,3	C	6,6	10	1
MTSE01051220H	LP12-100	6-FM-12V-105Ah	1,80VDC/ 5,25	CHINA/MALAYSIA	330	173	212	28	D	5	10	*
MTSE01201220H	LP12-120	6-FM-12V-120Ah	1,80VDC/ 6,17	CHINA/MALAYSIA	408	177	225	35	D	4	10	1
MTSE01501210H	LP12-150	6-FM-12V-150Ah	1,80VDC/ 7,88	CHINA/MALAYSIA	483	170	238,5	43,2	D	3,5	10	1
MTSE02001220H	LP12-200	6-FM-12V-200Ah	1,80VDC/ 10,40	CHINA/MALAYSIA	522	240	218	59,8	D	3,2	10	4
MTSE00071220H_PLUS	LCP12-22W	6-FM-12V-7Ah/Plus	1,75VDC/ 0,35	CHINA/MALAYSIA	151	65	93,5	1,79	A	43	10	3
MTSE00081220H_PLUS	LP12-8,0	6-FM-12V-8Ah/Plus	1,75VDC/ 0,40	CHINA/MALAYSIA	151	65	93,5	2,18	A	20	10	3

LAYOUT



TERMİNAL



1.80V/cell

	F.V / Time	5min	10min	15min	20min	30min	45min	10hr	20hr
6-FM-12V-7Ah	1.80V/cell	34.8	25.0	19.7	16.0	12.1	9.15	1.28	0.693
6-FM-12V-9Ah	1.80V/cell	60.8	41.4	32.1	25.7	18.5	13.3	1.67	0.890
6-FM-12V-12Ah	1.80V/cell	62.7	45.4	36.0	29.2	21.7	15.9	2.19	1.19
6-FM-12V-18Ah	1.80V/cell	110.3	75.2	58.3	47.9	35 5	25.9	3.35	1.78
6-FM-12V-24Ah	1.80V/cell	111.0	81.9	64.7	55.2	43.0	31.8	4.41	2.33
6-FM-12V-26Ah	1.80V/cell	140.8	102.4	77.4	65.9	49 2	36.1	4.84	2.57
6-FM-12V-28Ah	1.80V/cell	169.2	115.3	89.5	73.9	55.2	40.4	5.16	2.77
6-FM-12V-40Ah	1.80V/cell	178.4	127.8	114.9	90.8	69.0	47.7	7.28	3.82
6-FM-12V-55Ah	1.80V/cell	206.5	147.9	133.1	105.2	91.2	65.4	9.73	5.11
6-FM-12V-65Ah	1.80V/cell	272.4	207.9	171.6	143.5	108.7	80.5	11.9	6.32
6-FM-12V-80Ah	1.80V/cell	313.0	224.2	203 8	161 0	139.6	98.1	14.9	7.83
6-FM-12V-105Ah	1.80V/cell	468.3	351.2	312.2	243.5	168.6	129.7	17.0	8.94
6-FM-12V-120Ah	1.80V/cell	490.3	351.2	319.5	252.4	218.9	156.8	23.4	12.3
6-FM-12V-150Ah	1.80V/cell	625.9	448.3	407.5	321 9	279.2	200.2	29.8	15.7
6-FM-12V-200Ah	1.80V/cell	806.9	591.8	537.9	424.9	368.6	264.3	39.3	20.7
6-FM-12V-7Ah	1.80V/cell	34.8	25.0	20.3	16.0	12.1	9.15	1.28	0.693
6-FM-12V-9Ah	1.80V/cell	41.8	30.3	24.0	19.5	14.5	10.6	1.46	0.793

1.75V/cell

	F.V / Time	5min	10min	15min	20min	30min	45min	10hr	20hr
6-FM-12V-7Ah	1.75V/cell	37.4	26.1	20.3	16.4	12.3	9.30	1.29	0.700
6-FM-12V-9Ah	1.75V/cell	63.3	42.8	33.0	26.2	18.9	13.6	1.69	0.900
6-FM-12V-12Ah	1.75V/cell	67.3	47.4	37.1	29.9	22.1	16.2	2.22	1.20
6-FM-12V-18Ah	1.75V/cell	114.9	77.6	59.9	48.9	36.2	26.4	3.38	1.80
6-FM-12V-24Ah	1.75V/cell	122.5	88.5	69.8	58.8	44.3	32.6	4.52	2.35
6-FM-12V-26Ah	1.75V/cell	146.7	105.7	79 5	67.3	50.3	36.7	4.88	2 60
6-FM-12V-28Ah	1.75V/cell	176.3	119.1	91.9	75.6	56.4	41.1	5.21	2.80
6-FM-12V-40Ah	1.75V/cell	190.4	136.4	122.6	96.8	73.5	49.1	7.39	3.88
6-FM-12V-55Ah	1.75V/cell	220.4	157.8	142.1	121.2	92.4	67.4	9.82	5.16
6-FM-12V-65Ah	1.75V/cell	292.7	220.2	179.7	149.1	112.6	83.2	12.0	6.39
6-FM-12V-80Ah	1.75V/cell	334.0	239.2	217.5	171.8	141.4	101.0	15.0	7.90
6-FM-12V-105Ah	1.75V/cell	488.7	366.5	325.8	254.1	175.9	135.7	17.2	9.04
6-FM-12V-120Ah	1.75V/cell	523.3	374.8	341.0	269.4	221.7	161.5	23.6	12.4
6-FM-12V-150Ah	1.75V/cell	668.0	478.5	434.9	343.6	282.8	206.2	30 1	15.8
6-FM-12V-200Ah	1.75V/cell	861.1	631.6	574.1	453.5	373.2	272.2	39.7	20.8
6-FM-12V-7Ah	1.75V/cell	37.4	26.1	21.0	16.4	12.3	9.30	1.29	0.700
6-FM-12V-9Ah	1.75V/cell	44.9	31.6	24.7	19.9	14.7	10.8	1.48	0.800

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POWER FORLIFE

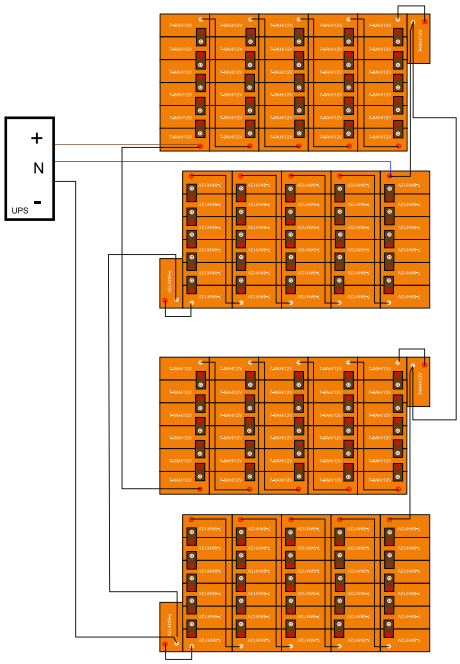
1-70V/cell									
	F.V / Time	5min	10min	15min	20min	30min	45min	10hr	20hr
6-FM-12V-7Ah	1.70V/cell	39.9	27.2	20.9	16.8	12.5	9.4	1.31	0.707
6-FM-12V-9Ah	1.70V/cell	65.7	44.2	33.9	26.9	19.3	13.8	1.71	0.907
6-FM-12V-12Ah	1.70V/cell	71.8	49.3	38.2	30.7	22.5	16.4	2.24	1.21
6-FM-12V-18Ah	1.70V/cell	119.2	80.2	61.5	50.1	37.0	26.9	3.41	1.81
6-FM-12V-24Ah	1.70V/cell	131.1	94.3	73.4	61.3	45.9	33.8	4.61	2.40
6-FM-12V-26Ah	1.70V/cell	152.1	109.2	81.7	68.9	51.3	37.4	4.93	2.62
6-FM-12V-28Ah	1.70V/cell	182.8	123.0	94.4	77.4	57.5	41.8	5.26	2.82
6-FM-12V-40Ah	1.70V/cell	200.2	143.4	128.9	101.9	77.4	49.7	7.49	3.93
6-FM-12V-55Ah	1.70V/cell	231.7	165.9	149.4	118.0	93.4	68.2	9.91	5.21
6-FM-12V-65Ah	1.70V/cell	311.9	231.8	187.8	155.3	116.5	85.7	12.2	6.47
6-FM-12V-80Ah	1.70V/cell	351.1	251.5	228.6	180.6	143.0	102.4	15.2	7.97
6-FM-12V-105Ah	1.70V/cell	494.9	371.1	329.9	257.3	178.1	138.9	17.4	9.14
6-FM-12V-120Ah	1.70V/cell	550.1	394.0	358.5	283.2	224.2	163.6	23.8	12.5
6-FM-12V-150Ah	1.70V/cell	702.3	503.0	457.2	361.2	286.0	208.9	30.3	15.9
6-FM-12V-200Ah	1.70V/cell	905 3	664.0	603.5	476.8	377.5	275.7	40.0	21.0
6-FM-12V-7Ah	1.70V/cell	39.9	27.2	21.6	16.8	12.5	9.40	1.31	0.707
6-FM-12V-9Ah	1.70V/cell	47.9	32.9	25.5	20.5	15.0	10.9	1.49	0.807

1.60V/cell									
	F.V / Time	5min	10min	15min	20min	30min	45min	10hr	20hr
6-FM-12V-7Ah	1.60V/cell	44.7	29.2	22.1	17.6	13.0	9.70	1.34	0.722
6-FM-12V-9Ah	1.60V/cell	70.1	46.5	35.6	28.0	20.0	14.3	1.74	0.924
6-FM-12V-12Ah	1.60V/cell	80.4	53.1	40.4	32.1	23.3	16.9	2.29	1.24
6-FM-12V-18Ah	1.60V/cell	127.2	84.4	64.5	52.3	38.4	27.8	3.47	1.85
6-FM-12V-24Ah	1.60V/cell	153.6	107.0	81.5	68.1	50.3	35.6	4.74	2.44
6-FM-12V-26Ah	1.60V/cell	162.4	114.9	85.7	71.9	53.2	38.6	5.02	2.67
6-FM-12V-28Ah	1.60V/cell	195.2	129.5	99.0	80.7	59.7	43.2	5.36	2.88
6-FM-12V-40Ah	1.60V/cell	206.3	147.7	132.9	105.0	79.7	50.4	7.66	4.03
6-FM-12V-55Ah	1.60V/cell	238.7	171.0	153.9	121.6	94.5	69.2	10.1	5.32
6-FM-12V-65Ah	1.60V/cell	346.5	252.7	202.6	166.3	123.9	90.7	12.5	6.62
6-FM-12V-80Ah	1.60V/cell	361.9	259.2	235.6	186.1	144.6	103.8	15.5	8.14
6-FM-12V-105Ah	1.60V/cell	510.0	382.5	340.0	265.2	183.6	145.9	17.9	9.40
6-FM-12V-120Ah	1.60V/cell	566.9	406.0	369.4	291.8	226.8	165.9	24.3	12.8
6-FM-12V-150Ah	1.60V/cell	723.7	518.4	471.2	372.2	289.3	211.8	31.0	16.3
6-FM-12V-200Ah	1.60V/cell	932.9	684.2	621.9	491.3	381.8	279.6	40.9	21.5
6-FM-12V-7Ah	1.60V/cell	44.7	29.2	22.8	17.6	13.0	9.70	1.34	0.722
6-FM-12V-9Ah	1.60V/cell	53.6	35.4	26.9	21.4	15.5	11.3	1.53	0.827

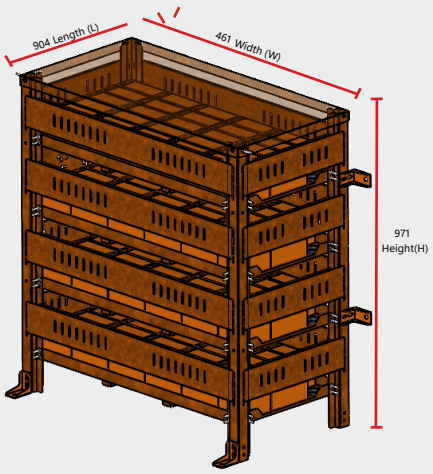
MODEL	JKBT CODE	QUANTITY	DIMENSIONS (W–L–H)
6-FM-12V-7Ah	JKBT0002	128	904 X 461 X 971
6-FM-12V-9Ah	JKBT0002	128	904 X 461 X 971
6-FM-12V-12Ah	JKBT0003	64	764 X 474 X 971
6-FM-12V-18Ah	JKBT0004/JKBT0010	64/128	879 X 499 X 991 / 924 X 681 X 1291
6-FM-12V-24Ah	JKBT0009	64	1149 X 569 X 1120
6-FM-12V-26Ah	JKBT0009	64	1149 X 569 X 1120
6-FM-12V-28Ah	JKBT0009	64	1149 X 569 X 1120
6-FM-12V-40Ah	JKBT0006	64	949 X 749 X 1291
6-FM-12V-55Ah	JKBT0008	32	689 X 589 X 1291
6-FM-12V-65Ah	JKBT0011	64	1547 X 770 X 1449
6-FM-12V-80Ah	JKBT0011	64	1547 X 770 X 1449
6-FM-12V-105Ah	JKBT0011	64	1547 X 770 X 1449

6-FM-12V-7Ah / 6-FM-12V-9Ah

JKBT0002



Cabinet



Aytemiz Kesintisiz Güç Kaynakları A.Ş.

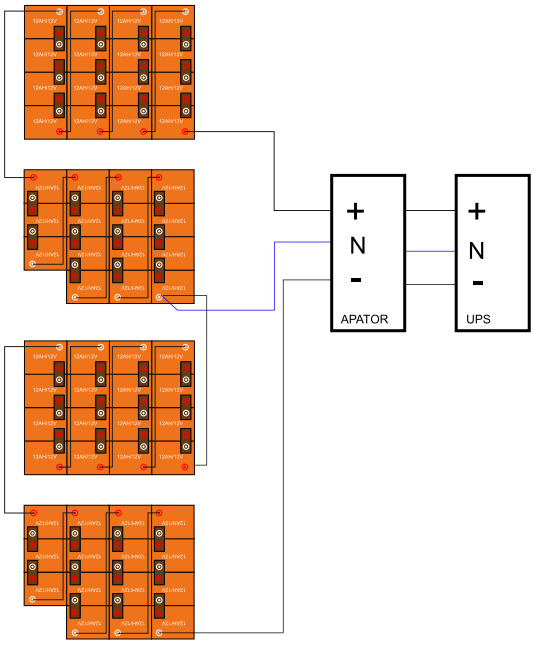
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6-FM-12V-12Ah

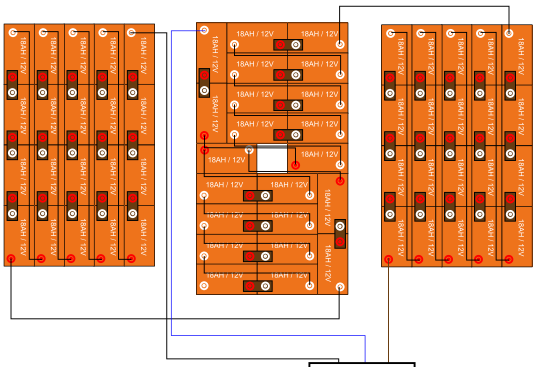
JKBT0003



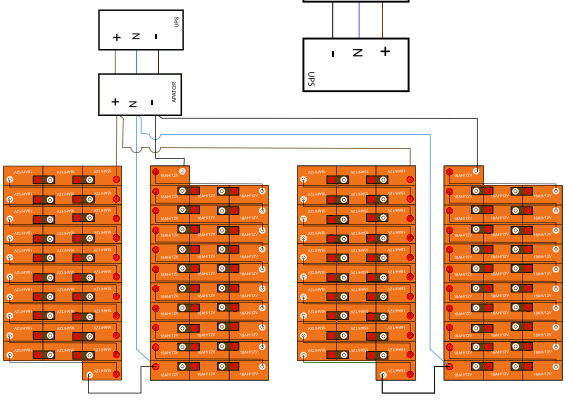
6-FM-12V-18Ah

JKBT0004/64 adet - JKBT0010/128 adet

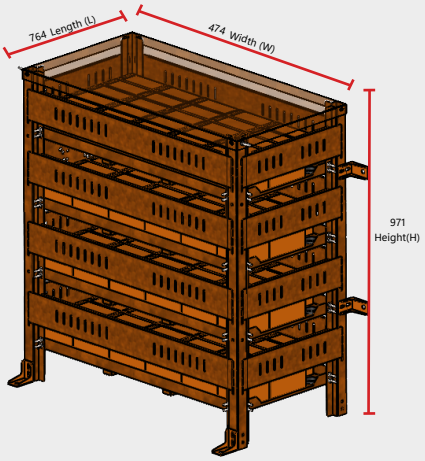
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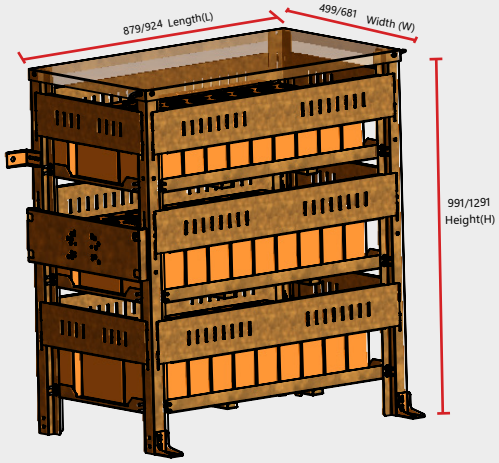


JKBT0010/128



Cabinet





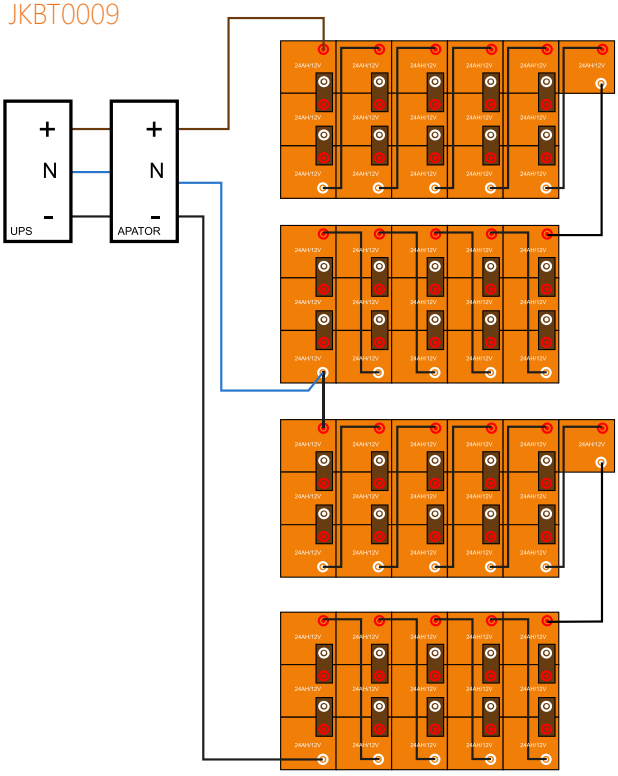
*Two cabinet options are available.

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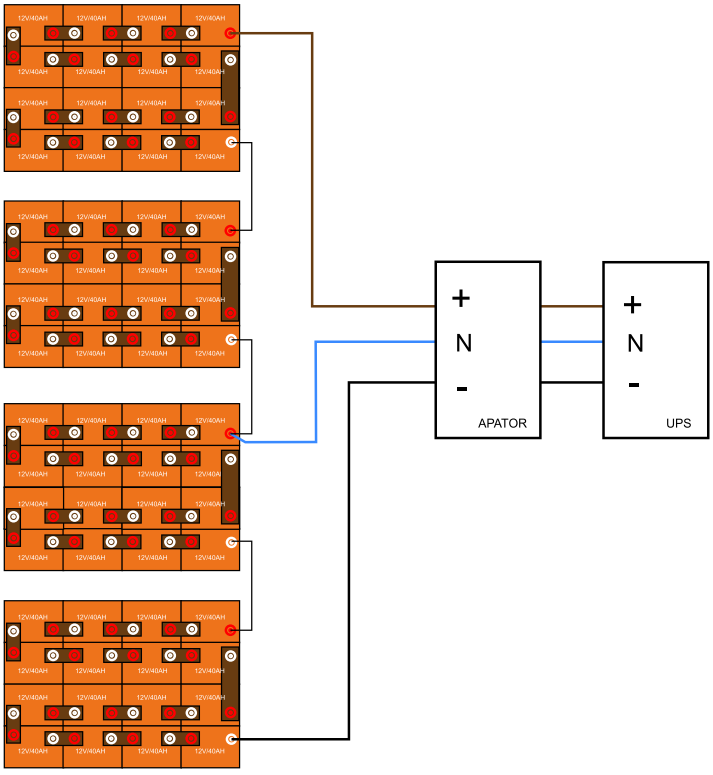
6-FM-12V-24Ah / 6-FM-12V-26Ah / 6-FM-12V-28Ah

JKBT0009

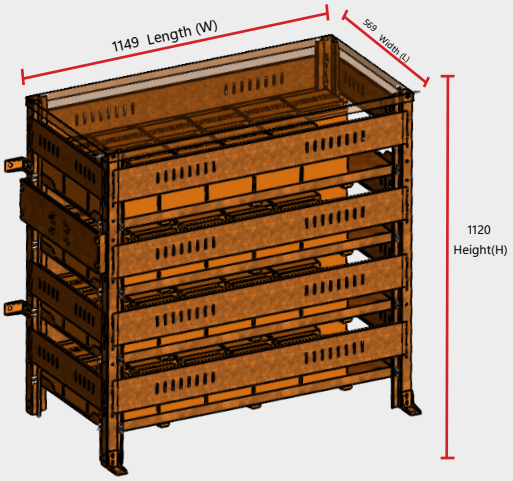


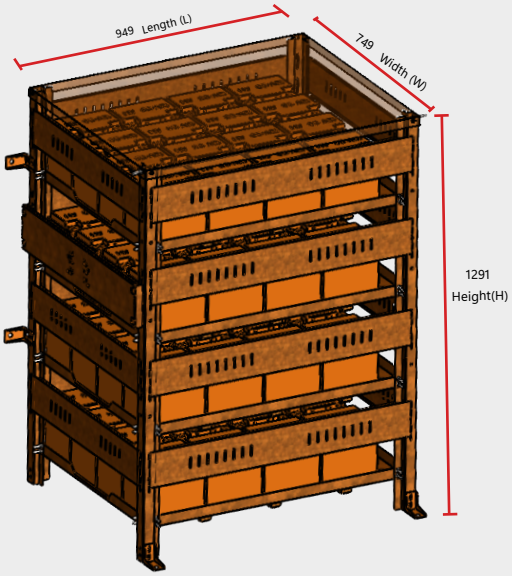
6-FM-12V-40Ah

JKBT0006



Cabinet





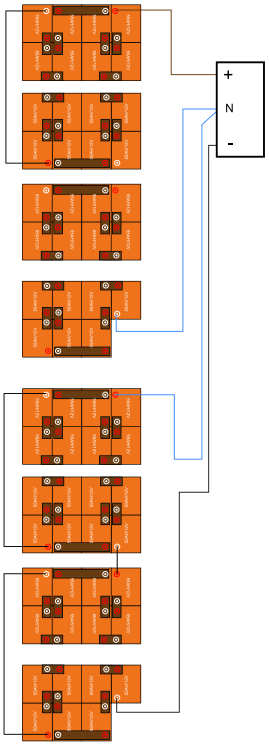
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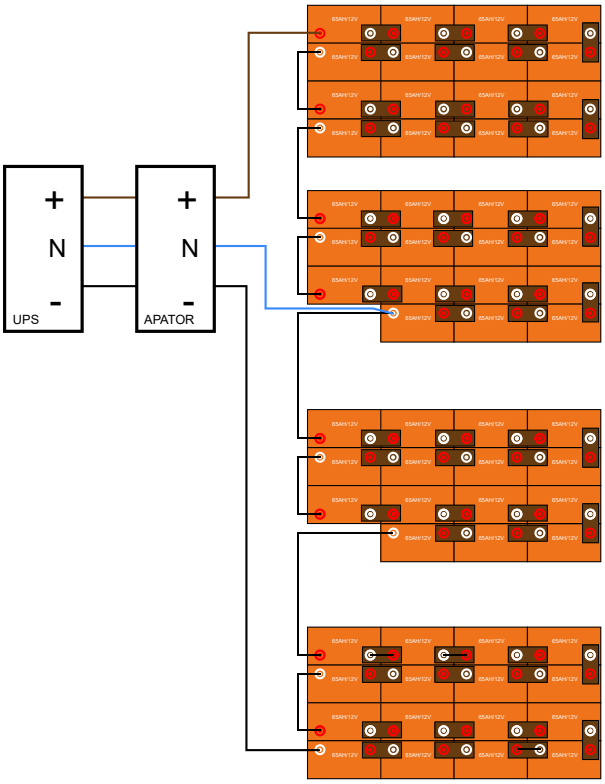
Aytemiz MAKELSAN
Uninterruptible Power Supplies/Generator

POWER FORLIFE

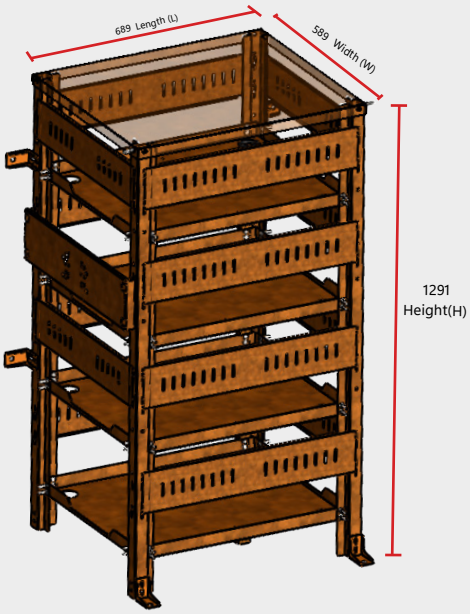
6-FM-12V-55Ah
JKBT0008

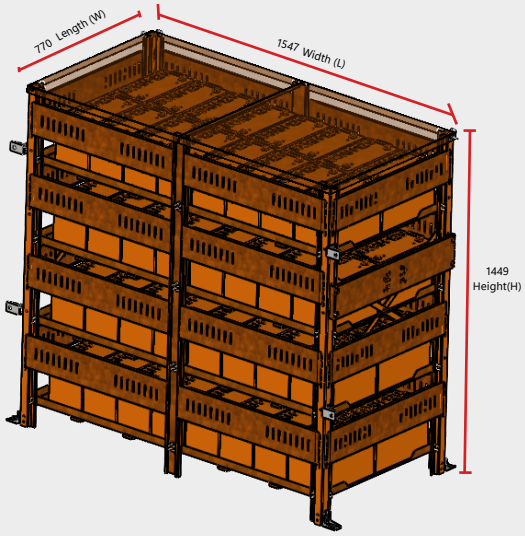


6-FM-12V-65Ah / 6-FM-12V-80Ah / 6-FM-12V-105Ah
JKBT0011



Cabinet





Aytemiz Kesintisiz Güç Kaynakları A.Ş.

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