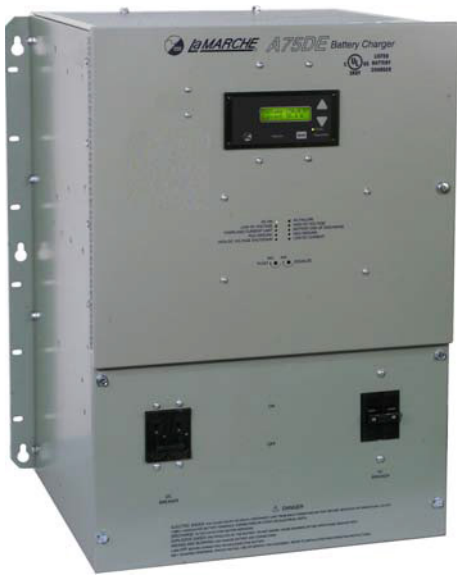
A75D / A75DE Series

SCR Battery Charger / Battery Eliminator



Standard A75DE Unit Shown Above

UL 1012 · c UL us 3RDY · oshpd Certified Technology · IBC INTERNATIONAL BUILDING CODE

SCR Battery Charger with Digital Display

The La Marche Model A75D/A75DE Series Battery Chargers are engineered for the demanding requirements of Switchgear, Process Control, Oil Exploration and other DC power applications.

Powered by solid state SCR technology, the A75D/A75DE series battery charger / battery eliminator has +/-0.5% DC voltage regulation from no load to full load over the specified input voltage, frequency and ambient temperature ranges.

These chargers are available in DC output voltages of 24, 48 and 130VDC with DC output currents from 6-500 amps. Single phase or three phase chargers can be powered with 120, 208, 240, 480 or 600 VAC input with a frequency of 60Hz +/-5%. Please consult factory for any special input and output requirements not mentioned above.

The La Marche A75D/A75DE chargers provide value added features such as AC/DC breakers, LCD display with text readout alarm LED's and form "C" alarm contacts. Optional communication protocols are also available with this battery charger.

Designed to meet NEMA PE5 and UL 1012 safety standards.

Standard Features

- A75D - Filtered Battery Charger
- A75DE - Filtered Battery Charger / Battery Eliminator
- SCR Technology
- Automatic AC Voltage Compensation
- AC & DC Surge Protection (MOV)
- AC Input Breaker / DC Output Breaker
- Internal Temperature Compensation
- Float / Equalize Mode Switch
- Separate Float and Equalize Adjustments
- Adjustable Current Limit 50 to 110% (factory set at 105%)
- +/-0.5% DC Voltage Regulation
- Load Sharing
- LCD Display for DC Voltage, DC Current & Alarms
- LED Indications
  - Float / Equalize
  - AC "ON"
  - AC Failure
  - Summary Alarm
  - Low DC Current
  - Over Load / Current Limit
  - Low DC Voltage
  - Battery End of Discharge
  - High DC Voltage
  - High DC Voltage Shutdown
  - Positive & Negative Ground Detection
- Remote Annunciation 2 Form "C" Contacts
  - AC Failure
  - Summary Alarm
  - (See Optional Accessories For Additional Alarm Contacts)
- Equalize Timer - adjustable from 1-144 hours with five selectable modes of operation (manual, automatic every 7, 14 or 30 days and equalize after sensing a low DC voltage)
- UL 1012 & CUL (Three phase units pending UL approval)
- 3-Year Warranty

MADE IN U.S.A.
Specifications subject to change without notice
P25-DSA75D-1
ECN 21195
06/16

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Specifications

ELECTRICAL

- **AC Input Operating Range**
  Voltage range: +10, -12% from nominal
  Frequency range: 60Hz +/-5%
  (50Hz Consult Factory)
- **Single Phase Voltages:**
  120, 208, 240, 480 or 600 VAC
  (Tap selectable 120/208/240 on units up to 25 amps output. All other units must specify single input voltage)
- **Three Phase Voltages:**
  208, 240, 480 or 600 VAC
- **DC Output**
  24, 48 & 130 VDC
  6 to 500 amps
- **Output Filtering (with or without batteries):**

	24V	48V	130V
A75D Filtered	240mV (1%)	480mV (1%)	2.6V (2%)
A75DE Eliminator	30mV	30mV	30mV(1ph) 100mV(3ph)

- **DC Voltage Regulation** Steady-State
  +/- 0.5% of setting from no load to full load over the specified input voltage, frequency and ambient temperature ranges.

DC Output Voltage Range

	Volts		Cells	
	Float	Equalize	Lead Acid	Ni-Cad
24V	23-29.5	24-31	11-13L	17-20N
48V	46-57	48-61	22-26L	33-39N
130V	115-140	123-145	53-62L	83-93N

Note: Typical cell ranges are based on the following:
Lead Acid 2.17 vpc Float, 2.33 vpc Equalize
NiCad 1.44 vpc Float, 1.55 vpc Equalize
VRLA 2.25 vpc Float, 2.27 vpc Equalize

- **Dynamic Response (On Battery)**
  Maximum Voltage Transient will not exceed +/- 5% of initial steady-state voltage for a step change from 20 to 100% of the full rated load. Recovery to steady-state voltage regulation does not exceed 200ms and all transient behavior disappears within 500ms.
- **Audible Noise**
  Less than 65dBA at any point 5 feet from any vertical surface of the enclosure.
- **Load Sharing**
  Load sharing terminal located inside of unit. When connected, identical La Marche A75D/DE units are forced to share the load within +/- 5% for individual unit outputs greater than 15% of the rated output.

PROTECTION

- **Current Walk-in**
  The output current will gradually increase after the charger is turned on, eliminating surges and overshoot.
- **Current Limit**
  Electronic current limiting control circuitry provides for an adjustable value of 50 to 110% of the rated output current. Factory set at 105%.
- **AC Breaker**
  Single Phase units are equipped with a 2-pole circuit breaker (10KAIC @ up to 240VAC / 14KAIC 480 / 600 VAC).
  Three Phase units are equipped with a 3-pole circuit breaker. (10KAIC @ up to240VAC / 5KAIC 480 / 600 VAC).
- **DC Breaker**
  Standard units are equipped with a 2-pole circuit breaker. (7.5KAIC @ 24/48VDC & 5KAIC @ 130VDC).

ENVIRONMENTAL

- **Operating Temperature**
  0 to 50° C (32 to 122° F)
- **Storage Temperature**
  -40 to 85° C (-40 to 185° F)
- **Relative Humidity**
  0 to 95% (non-condensing)
- **Cooling**
  Convection Cooled

ENCLOSURES

- **Dimensions**
  Overall dimensions and weights are listed on the last page. Case specifications are subject to change due to innovative product development and design. When space requirements are critical, please consult the factory.
- **Mounting**
  Floor, wall or rack mounting is available; see case specifications on page 4 for details.
- **Finish**
  Pretreated with three step iron phosphate wash and deionized rinse. Finished with environmentally safe water based ANSI 61 gray baked enamel.

Optional Accessories

01C 2 - Pole High Interrupting Capacity AC Breaker*
65KAIC @ 240VAC / 35KAIC @ 480VAC /
18KAIC @ 600 VAC

01D 2 - Pole High Interrupting Capacity AC Breaker*
100KAIC @ 240VAC / 65KAIC @ 480VAC /
25 KAIC @ 600VAC

01F 3-Pole High Interrupting Capacity AC Breaker*
65KAIC @ 240 VAC/ 25KAIC @ 480 VAC /
18KAIC @ 600 VAC

01G 3-Pole High Interrupting Capacity AC Breaker*
100KAIC @ 240 VAC/ 65KAIC @ 480 VAC /
25KAIC @ 600 VAC

* Only available for units with current draws above 8 amps

47C DC Breaker 10KAIC

20Q Equalize Fan Control Relay

217 Reverse Polarity Protection & LED

38D Copper Ground Bus Bar

11L Lightning Arrestor

102 Blocking Diode

11W External Temperature Probe 22ft

11Y External Temperature Probe 100ft

09C I.D Tags - White text on black background

09V I.D Tags - Black text on white background

09W Heat Shrink Wire Markers with Electrical Schematic

46R Discrete Alarm Relays

- Positive Ground
- Negative Ground
- High DC Volts
- Charger Failure
- Low DC Volts
- Low DC Amps
- Battery End of Discharge
- High Voltage Shutdown

537 OSHPD Certification Label (consult factory for Anchor Kits)

538 IBC Certification Label (consult factory for Anchor Kits)

Communication Protocols

21J IEC 61850

21P DNP 3.0 Comunnications RS232/RS485/Ethernet

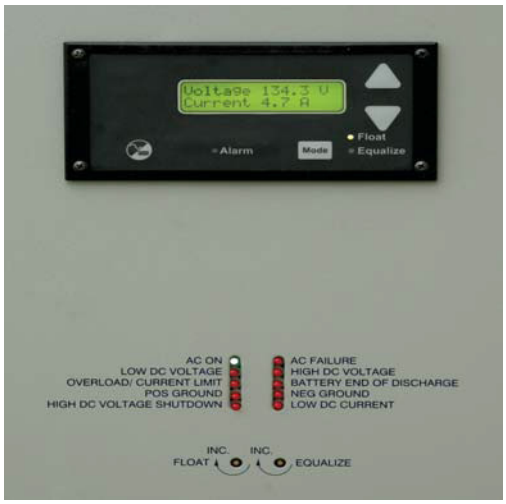
21Q Modbus Comunnications RS232/RS485/Ethernet

21S Modbus RTU - Serial Data Port

21X SNMP

Unit Front:

A75D/DE model units are provided with a user friendly LCD Display for along with 13 LED indicators and two individual potentiometers Float/ Equalize charging rates.



NOTE:
Picture shown is for single phase units.
LEDs on three phase units are in a different arrangement.

A75D/A75DE Charger Chart

	Model Number	DC Amps	Single Phase AC Input Current Draw Amps @ 100% Load (Recommended Feeder AC Supply Breaker)						Case Size	Shipping Weight* (Approximate)	
			(ABD)120/240/208	(A)120	(D)208	(B)240	(C)480	(ZD)600		lbs	kgs
24 Volt Systems	A75D(E)-6-24V	6	3 / 2 / 2 (5/5/5)	---	---	---	---	---	4B75	82	37
	A75D(E)-12-24V	12	6 / 3 / 3 (10/5/5)	---	---	---	---	---	4B75	92	42
	A75D(E)-16-24V	16	8 / 4 / 5 (15/10/10)	---	---	---	---	---	4B75	98	45
	A75D(E)-20-24V	20	10 / 5 / 6 (15/10/10)	---	---	---	---	---	4B75	100	46
	A75D(E)-25-24V	25	12 / 6 / 7 (20/10/10)	---	---	---	---	---	4B75	104	48
	A75D(E)-30-24V	30	---	15 (25)	8 (15)	7 (15)	4 (10)	---	475	130	59
	A75D(E)-35-24V	35	---	17 (25)	10 (15)	9 (15)	4 (10)	---	475	150	69
	A75D(E)-40-24V	40	---	20 (30)	11 (20)	10 (15)	5 (10)	4 (10)	475	160	73
	A75D(E)-50-24V	50	---	24 (35)	14 (20)	12 (20)	6 (10)	5 (10)	475	185	84
	A75D(E)-60-24V	60	---	29 (40)	17 (25)	15 (20)	7 (10)	6 (10)	475	208	95
	A75D(E)-75-24V	75	---	37 (50)	21 (30)	18 (30)	9 (15)	7 (10)	975	240	109
	A75D(E)-100-24V	100	---	49 (70)	28 (40)	24 (35)	12 (20)	10 (15)	975	275	125
48 Volt Systems	A75D(E)-6-48V	6	6 / 3 / 3 (10/5/5)	---	---	---	---	---	4B75	84	38
	A75D(E)-12-48V	12	12 / 6 / 7 (20/10/10)	---	---	---	---	---	4B75	96	44
	A75D(E)-16-48V	16	16 / 8 / 9 (25/15/15)	---	---	---	---	---	475	137	62
	A75D(E)-20-48V	20	20 / 10 / 11 (30/15/20)	---	---	---	5 (10)	---	475	158	72
	A75D(E)-25-48V	25	24 / 12 / 14 (35/20/25)	---	---	---	6 (10)	5 (10)	475	170	73
	A75D(E)-30-48V	30	---	29 (40)	17 (25)	15 (20)	7 (10)	6 (10)	475	190	86
	A75D(E)-35-48V	35	---	34 (50)	20 (30)	17 (25)	9 (15)	7 (10)	475	220	100
	A75D(E)-40-48V	40	---	39 (60)	23 (35)	20 (30)	10 (15)	8 (15)	475	240	109
	A75D(E)-50-48V	50	---	49 (70)	28 (40)	24 (35)	12 (20)	10 (15)	475	260	118
	A75D(E)-60-48V	60	---	59 (90)	34 (50)	29 (40)	15 (20)	12 (20)	975	300	137
	A75D(E)-75-48V	75	---	73 (100)	42 (60)	37 (50)	18 (25)	15 (20)	975	350	159
	A75D(E)-100-48V	100	---	98 (125)	56 (90)	49 (70)	24 (35)	20 (30)	975	448	204
130 Volt Systems	A75D(E)-6-130V	6	15 / 7 / 8 (25/10/15)	---	---	---	4 (10)	3 (5)	475	178	81
	A75D(E)-12-130V	12	29 / 15 / 17 (40/25/25)	---	---	---	7 (10)	6 (10)	475	185	84
	A75D(E)-16-130V	16	39 / 20 / 23 (60/30/35)	---	---	---	10 (15)	8 (15)	475	212	96
	A75D(E)-20-130V	20	49 / 24 / 28 (70/35/40)	---	---	---	12 (20)	10 (15)	475	235	107
	A75D(E)-25-130V	25	61 / 31 / 35 (90/50/50)	---	---	---	15 (20)	12 (20)	475	255	116
	A75D(E)-30-130V	30	---	73 (100)	42 (60)	37 (50)	18 (25)	15 (20)	475	300	137
	A75D(E)-35-130V	35	---	85 (125)	49 (70)	43 (60)	21 (30)	17 (25)	975	375	171
	A75D(E)-40-130V	40	---	98 (150)	56 (90)	49 (70)	24 (35)	20 (30)	975	422	192
	A75D(E)-50-130V	50	---	---	70 (100)	61 (90)	31 (50)	24 (35)	975	480	218
	A75D(E)-75-130V	75	---	---	106 (150)	92 (125)	46 (70)	37 (50)	72	735	334

	Model Number	DC Amps	Three Phase AC Input Current Draw Amps @ 100% Load (Recommended Feeder AC Supply Breaker)				Case Size	Shipping Weight* (Approximate)	
			(D) 208	(B) 240	(C) 480	(ZD) 600		lbs	kgs
24 Volt Systems	A75D(E)-75-24V	75	11 (15)	9 (15)	5 (10)	4 (5)	975	400	181
	A75D(E)-100-24V	100	14 (20)	12 (20)	6 (10)	5 (10)	975	475	215
	A75D(E)-125-24V	125	18 (25)	16 (25)	8 (15)	6 (10)	72	530	240
	A75D(E)-150-24V	150	22 (30)	19 (30)	9 (15)	7 (15)	72	600	272
	A75D(E)-200-24V	200	29 (40)	25 (35)	12 (20)	10 (15)	72	675	306
	A75D(E)-250-24V	250	36 (50)	31 (50)	16 (25)	12 (20)	46	800	363
	A75D(E)-300-24V	300	43 (60)	37 (60)	19 (30)	15 (25)	46	875	398
	A75D(E)-400-24V	400	58 (80)	50 (70)	25 (35)	20 (30)	47	1050	477
48 Volt Systems	A75D(E)-50-48V	50	14 (20)	12 (20)	6 (10)	5 (10)	975	400	181
	A75D(E)-75-48V	75	22 (30)	19 (30)	9 (15)	7 (15)	975	575	261
	A75D(E)-100-48V	100	29 (40)	25 (35)	12 (20)	10 (15)	975	600	272
	A75D(E)-125-48V	125	36 (50)	31 (50)	16 (25)	12 (20)	72	680	308
	A75D(E)-150-48V	150	43 (60)	37 (60)	19 (30)	15 (25)	72	700	318
	A75D(E)-200-48V	200	58 (80)	50 (70)	25 (35)	20 (30)	46	755	342
	A75D(E)-250-48V	250	72 (100)	62 (90)	31 (50)	25 (35)	46	800	363
	A75D(E)-300-48V	300	86 (125)	75 (100)	37 (60)	30 (50)	47	900	408
	A75D(E)-400-48V	400	115 (175)	100 (150)	50 (70)	40 (60)	47	1200	544
130 Volt Systems	A75D(E)-25-130V	25	18 (30)	16 (25)	8 (15)	6 (10)	975	305	138
	A75D(E)-30-130V	30	22 (30)	19 (30)	9 (15)	7 (15)	975	315	143
	A75D(E)-35-130V	35	25 (35)	22 (30)	11 (15)	9 (15)	975	330	150
	A75D(E)-40-130V	40	29 (40)	25 (35)	12 (20)	10 (15)	975	330	150
	A75D(E)-50-130V	50	36 (50)	31 (50)	16 (25)	12 (20)	975	475	216
	A75D(E)-75-130V	75	54 (80)	47 (70)	23 (35)	19 (30)	72	660	299
	A75D(E)-100-130V	100	72 (90)	62 (90)	31 (50)	25 (35)	72	800	363
	A75D(E)-125-130V	125	90 (125)	78 (125)	39 (60)	31 (50)	46	850	385
	A75D(E)-150-130V	150	108 (150)	94 (150)	47 (70)	37 (60)	46	900	408
	A75D(E)-200-130V	200	144 (200)	125 (175)	62 (90)	50 (70)	47	1800	816
	A75D(E)-250-130V	250	180 (250)	156 (225)	78 (125)	62 (90)	47	2000	907
	A75D(E)-300-130V	300	216 (300)	187 (300)	94 (150)	75 (100)	47	2200	998
	A75D(E)-400-130V	400	288 (400)	250 (350)	125 (175)	100 (150)	57	2500	1134
	A75D(E)-500-130V	500	360 (500)	312 (450)	156 (225)	125 (175)	57	2750	1247

*Note: Case size subject to change without notice / *Consult Factory for optional export crating weight*
( ) Recommended Input Feeder Breaker

Case Specifications

Case No.	Overall Dimensions						Cable Entry		Standard Mounting	Optional Mounting Kits	
	Width		Depth		Height						
	in	mm	in	mm	in	mm	AC Input	DC Input		Rack	Floor
4B75	19	483	15.1	384	12.3	310.39	RIGHT TOP / BOTTOM	LEFT TOP / BOTTOM	WALL	19" / 23"	✓
475	19	483	15.1	384	24	609.6	RIGHT TOP / BOTTOM	LEFT TOP / BOTTOM	WALL	19" / 23"	✓
975	20.8	585	15.1	384	37.9	962.66	RIGHT TOP / BOTTOM	LEFT TOP / BOTTOM	FLOOR	23"	STD
72	27	686	23.5	597	44.5	1130.3	BOTTOM RIGHT	BOTTOM LEFT	FLOOR		
46	30	762	30	762	72	1828.8	TOP / BOTTOM	TOP / BOTTOM	FLOOR		
47	38	986	39.4	1001	70	1778	TOP / BOTTOM	TOP / BOTTOM	FLOOR		
57	60	1524	36	915	80	2032	TOP / BOTTOM	TOP / BOTTOM	FLOOR		

Model Number Nomenclature

A75D (E) - 25 - 130V - ( ) 1 - ( ) - ( )

- A75D — Model Number
- (E) — Filtered / Battery Eliminator
- 25 — DC Amps
- 130V — DC Volts
- ( ) — AC Voltage Code
- 1 — AC Phase Code
- ( ) — Battery Cell Type Code
- ( ) — Factory Assigned Accessory Code

AC Voltage Codes

A - 120
B - 240
C - 480
D - 208
ZD - 600
ABD - 120/240/208

AC Phase Codes

1 - Single Phase
3 - Three Phase

Battery Cell Type Code

11L 12L 13L 22L 23L 24L 25L 26L 53L 54L 55L 56L
57L 58L 59L 60L 61L 62L
17N 18N 19N 20N 33N 34N 35N 36N 37N 38N 39N
83N 84N 85N 86N 87N 88N 89N 90N 91N 92N 93N

L = Lead Acid
N = Nickel Cadmium
LR = VRLA (A75DE Models Only)

Battery Charger Sizing Guidelines

- Required Battery Backup Time (Hours)
- DC Output Voltage
- Ampere Hour Capacity of Battery
- Allowable Recharge Time From Full Discharge (Hours), Where Applicable
- Continuous and Intermittent DC Loads and Duration (Amps)

Ordering Information

When ordering, please specify:

- La Marche Model Number
- DC Amps
- DC Volts
- Special Frequency, When Required
- AC Voltage Code
- AC Phase Code
- Battery Cell Type Code
- Optional Accessories (Option Code)