

stored energy solutions for a demanding world

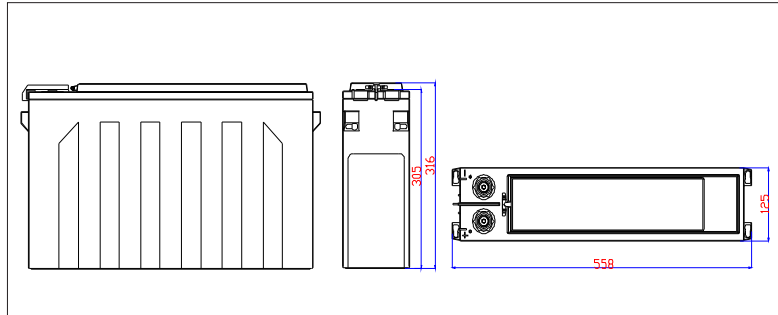
Model: **12UDS190**

UDS series

Narada UDS series is a battery designed as Ultra Duration Service battery, which is ideal for stable grid condition at varied temperature. It adopts Thin Plates Pure Lead (TPPL) technology and Continue Casting Punch Plates (CCPP) manufacture method and automatic assembling line. UDS series has extreme long standby service life, its design life is 16 years (20°C) .



Dimensions-mm



Specifications

Battery Model	12UDS190
Nominal Voltage	12V
Rated Capacity	190Ah (10 hour rate) to 1.80V/cell @25°C(77°F)
Typical Weight	59.3 kg
Internal Resistance	Approx 4.26mΩ
Temperature Ranges	Operation (maximum): -40°C to 60°C(-40°F to 140°F)
	Operation (recommended): 20°C to 40°C(68°F to 104°F)
	Storage: -20°C to 40°C(-4°F to 104°F)
Float Voltage	2.25V/cell@25°C(77°F)
Recommended Maximum Charging Current Limit	47.5 A
Equalize Voltage	2.35V/cell@25°C(77°F)
Shelf Life	2 years (20°C/68°F)
Terminal	M6 Female
Terminal Hardware Torque	8~10Nm
Container Material	ABS (V0 optional)

Constant Current Discharge Characteristics Units: Amperes (25°C, 77°F)

End voltage per cell	1HR	2HR	3HR	4HR	5HR	6HR	8HR	10HR	12HR	20HR	24HR
1.60V	129	75.4	54.1	42.5	35.1	29.9	24.2	20.9	17.8	12.6	10.8
1.67V	128	74.8	53.6	42.1	34.8	29.7	24.1	20.8	17.8	12.5	10.7
1.70V	127	74.6	53.6	42.1	34.8	29.6	24.0	20.6	17.5	12.3	10.5
1.75V	125	74.4	53.5	42.0	34.7	29.5	23.8	20.0	16.6	10.6	8.54
1.80V	122	74.3	53.4	41.8	34.6	29.3	23.1	19.1	16.4	10.3	8.58
1.83V	118	74.1	53.1	41.6	34.4	29.1	22.6	18.7	16.1	9.92	8.30
1.85V	113	71.1	52.2	41.1	33.8	28.5	22.3	18.6	15.4	9.15	7.53

Discharge Data with Constant Power Units: Watts per cell (25°C, 77°F)

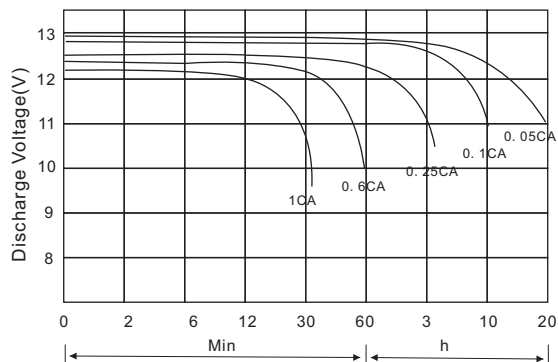
End voltage per cell	1HR	2HR	3HR	4HR	5HR	6HR	8HR	10HR	12HR	20HR	24HR
1.60V	252	150	108	84.9	71.2	60.3	47.1	42.3	36.2	23.4	20.1
1.67V	248	149	108	84.9	71.1	60.2	46.9	42.0	35.8	22.7	19.4
1.70V	246	149	108	84.8	71.0	60.1	46.9	41.8	35.5	22.2	18.8
1.75V	240	148	108	84.7	70.8	60.0	46.6	41.1	34.5	20.7	17.1
1.80V	236	148	108	84.5	70.6	59.8	45.6	39.4	32.4	18.9	16.2
1.83V	229	147	107	84.3	70.5	59.6	45.0	38.8	31.9	17.6	15.0
1.85V	221	143	106	83.7	69.0	58.6	44.4	38.5	31.8	16.5	14.1

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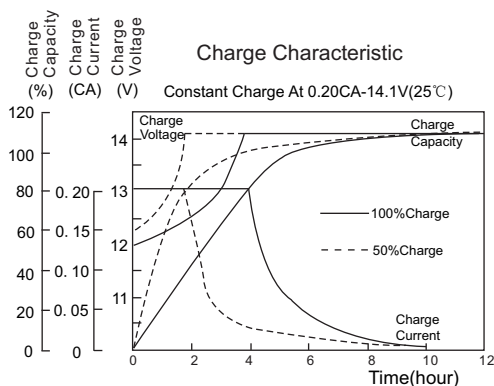
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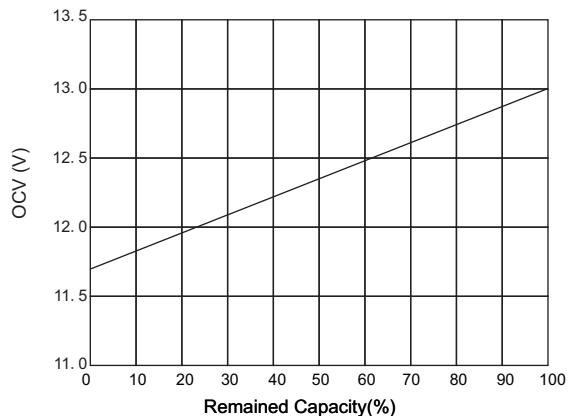
Terminal Voltage(V) Vs. Discharge Time (25°C, 77°F)



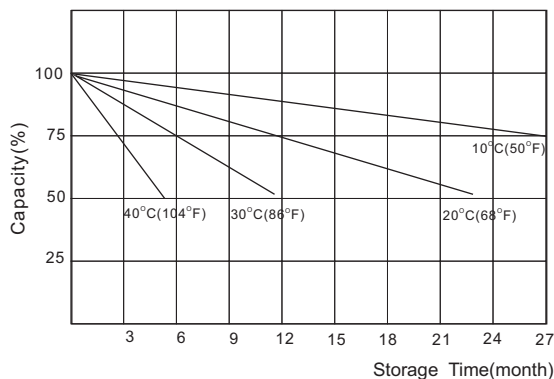
Battery Voltage Vs. Charge Time



Relationship of OCV Vs. State of Charge



Capacity Retention Characteristic



Charging Procedures

Application	Charge Voltage (V/Cell)			Max. Charge Current
	Temperature	Set Point	Allowable Range	
Cycle	25°C	2.35	2.35~2.40	0.25C
Standby	25°C	2.25	2.23~2.27	

Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/Cell	1.80	1.70	1.55	1.30
Discharge Current (A)	0.2C ≥ (A)	0.2C < (A) < 0.5C	0.5C < (A) < 1.0C	(A) > 1.0C



12UDS190-01-T-EN (Ver. 7.0 Aug. 2016) Subject to revision without prior notice. E. & O.E.

