

stored energy solutions for a demanding world

**Narada**

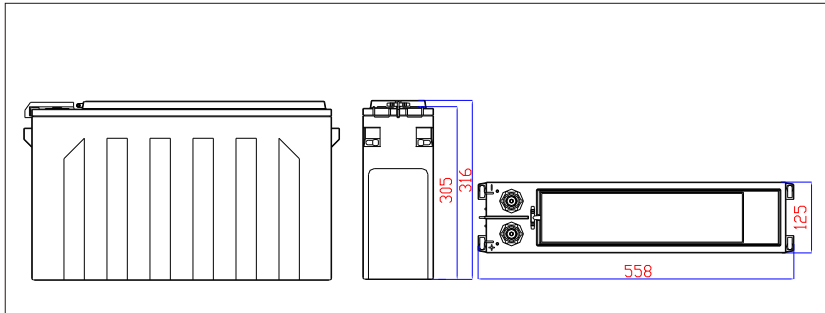
Model: **12NDT190S**

**Acme**

The Acme T range of front access VRLA batteries has been specifically designed for applications using 19" and 23" cabinets, especially telecoms. Reliability is assured with the patented post seal and a state-of-the-art design developed to comply with the latest IEC, British and Telcordia standards. A 12+ years design life and centralised venting system add to the suitability and flexibility of this superior range.



**Dimensions—mm**



**Specifications**

Battery Model	12NDT190S
Nominal Voltage	12V
Rated Capacity	190Ah (10 hour rate) to 1.80V/cell @25°C(77°F)
Typical Weight	59.0 kg
Internal Resistance	Approx 4.28mΩ
Temperature Ranges	Operation (maximum): -40°C to 55°C(-40°F to 131°F)
	Operation (recommended): 15°C to 25°C(59°F to 77°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 and Cycle Service	2.35V/cell@25°C(77°F)
Self Discharge	The residual capacity is above 91% after 90 days storage(25°C/77°F)
Terminal	M6 Female
Terminal Hardware Torque	8~10Nm
Container Material	ABS (V0 optional)



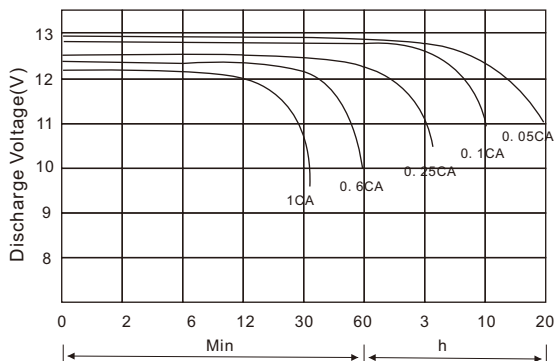
**Constant Current Discharge Characteristics Units: Amperes (25°C, 77°F)**

End voltage per cell	5MIN	15MIN	30MIN	45MIN	1HR	2HR	3HR	4HR	5HR	6HR	8HR	10HR	12HR	20HR	24HR
1.60V	519	317	208	158	128	75.0	53.8	42.3	34.9	29.8	23.2	20.8	17.7	12.5	10.8
1.67V	479	307	205	156	127	74.4	53.3	41.9	34.6	29.6	23.1	20.7	17.7	12.4	10.6
1.70V	463	300	202	154	126	74.2	53.3	41.9	34.6	29.5	23.0	20.5	17.4	12.2	10.4
1.75V	423	272	190	149	124	74.0	53.2	41.8	34.5	29.4	22.8	19.9	16.5	10.5	8.50
1.80V	350	245	179	144	121	73.9	53.1	41.6	34.4	29.2	22.2	19.0	16.3	10.2	8.53
1.83V	326	232	171	139	117	73.7	52.8	41.4	34.2	29.0	21.7	18.6	16.0	9.88	8.26
1.85V	310	219	162	132	112	70.7	51.9	40.9	33.6	28.4	21.4	18.5	15.3	9.11	7.49

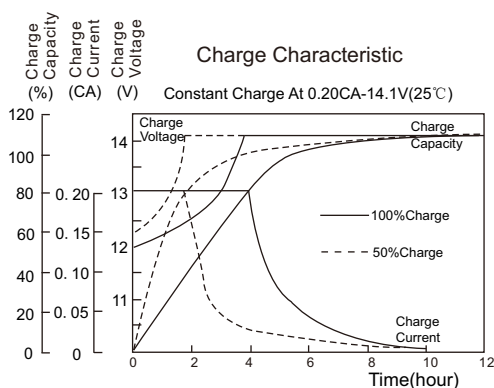
**Discharge Data with Constant Power Units: Watts per cell (25°C, 77°F)**

End voltage per cell	5MIN	15MIN	30MIN	45MIN	1HR	2HR	3HR	4HR	5HR	6HR	8HR	10HR	12HR	20HR	24HR
1.60V	896	589	399	307	251	149	107	84.5	70.8	60.0	46.9	42.1	36.0	23.3	20.0
1.67V	843	565	388	301	247	148	107	84.5	70.7	59.9	46.7	41.8	35.6	22.6	19.3
1.70V	815	549	381	297	245	148	107	84.4	70.6	59.8	46.7	41.6	35.3	22.1	18.7
1.75V	753	510	362	287	239	147	107	84.2	70.4	59.7	46.4	40.9	34.3	20.6	17.0
1.80V	635	455	339	276	235	147	107	84.1	70.2	59.5	45.4	39.2	32.2	18.8	16.1
1.83V	597	434	327	267	228	146	106	83.9	70.1	59.3	44.8	38.6	31.7	17.5	14.9
1.85V	570	415	314	257	220	142	105	83.3	68.7	58.3	44.2	38.3	31.6	16.4	14.0

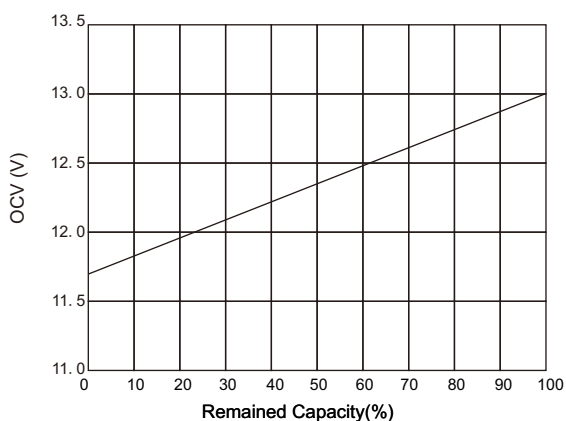
Terminal Voltage(V) Vs. Discharge Time (25°C, 77°F)



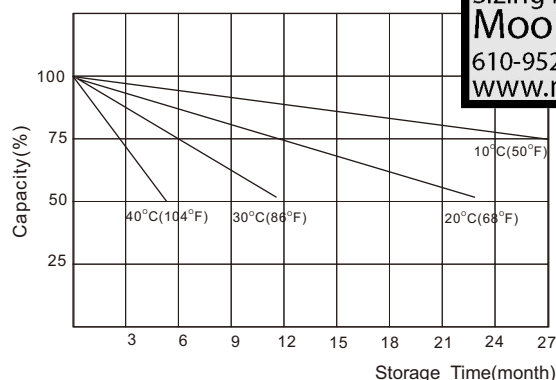
Battery Voltage Vs. Charge Time



Relationship of OCV Vs. State of Charge



Capacity Retention Characteristic



IEEE/UL Battery Sizing by **MooreU**  
610-952-6067  
www.mooreu.com

**Charging Procedures**

Application	Charge Voltage (V/Cell)			Max. Charge Current
	Temperature	Set Point	Allowable Range	
Cycle	25°C	2.40	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

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