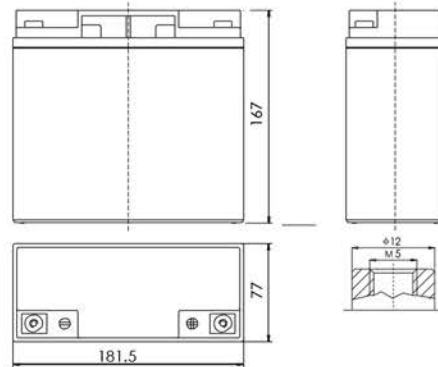


6-FM/NP20

FM/NP Battery Series (General Use Battery)



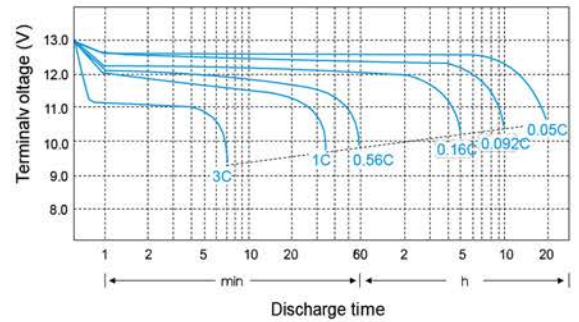
Specifications

Nominal Voltage		12V
Rated Capacity (20 hour rate)		20Ah
Dimensions	Total Height (with terminals)	6.57inches (167mm)
	Height	6.57inches (167mm)
	Length	7.15inches (181.5mm)
	Width	3.03inches (77mm)
Weight		Approx. 13.20pound (6.0kg)

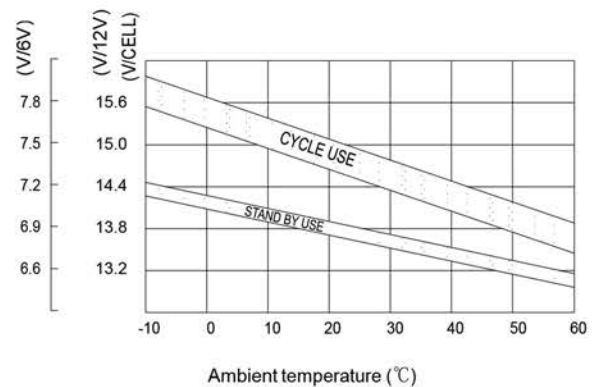
Characteristics

Capacity 77°F(25°C)	20 hour rate (1A)	20Ah
	10 hour rate (1.86A)	18.6Ah
	5 hour rate (3.2A)	16Ah
	1 hour rate (12A)	12Ah
	15 minute Rate (35.2A)	8.8Ah
Internal Resistance	Full charged Battery 77°F(25°C)	13mΩ
Capacity affected by Temperature (20 hour rate)	104°F(40°C)	102%
	77°F(25°C)	100%
	32°F(0°C)	85%
	5°F(-15°C)	65%
Self-Discharge 77°F(20°C)	Capacity after 3 month storage	91%
	Capacity after 6 month storage	81%
	Capacity after 12 month storage	60%
Max. Discharge Current 77°F(25°C)	300A(5S)	
Terminal	M4	
Charge (Constant Voltage)	Cycle	Initial Charging Current less than 6A
		Voltage 14.4~14.7V/77°F(25°C)
	Float	Voltage 13.5~13.8V/77°F(25°C)

Discharge Curves 77°F(25°C)



Relationship between charge voltage and temperature



Constant Current Discharge (AMPERES @25°C)

F.V/Time	5Min	10Min	15Min	30Min	60Min	2H	3H	4H	5H	10H	20H
9.60	76.20	48.40	38.80	21.60	13.20	7.46	5.14	4.12	3.48	1.90	1.01
9.90	74.40	47.00	37.40	21.00	12.86	7.20	5.08	4.08	3.47	1.88	1.01
10.20	71.00	45.00	36.20	20.60	12.50	7.10	5.02	4.04	3.44	1.87	1.00
10.50	68.00	43.20	34.80	20.40	12.20	7.00	5.00	4.00	3.40	1.87	1.00
10.80	64.00	42.80	33.00	19.80	11.80	6.80	4.92	3.90	3.36	1.82	0.98

Constant Power Discharge (WATTS PER CELL @25°C)

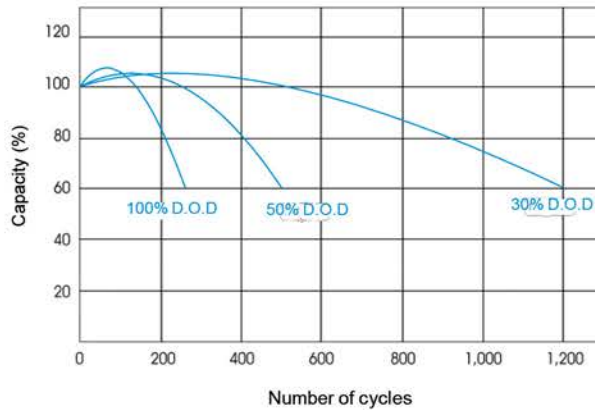
F.V/Time	5Min	10Min	15Min	30Min	60Min	2H	3H	4H	5H	10H	20H
9.60	848.87	544.02	440.77	246.24	152.33	87.19	61.11	49.07	41.48	22.72	12.17
9.90	829.56	528.75	425.24	240.45	148.66	84.23	60.50	48.67	41.39	22.55	12.13
10.20	792.36	506.70	411.96	236.08	144.63	83.21	59.86	48.24	41.10	22.38	12.08
10.50	759.56	487.30	396.37	233.99	141.28	82.18	59.65	47.80	40.66	22.38	12.04
10.80	715.52	483.64	376.24	227.30	136.88	79.90	58.79	46.64	40.23	21.88	11.84

6-FM/NP20

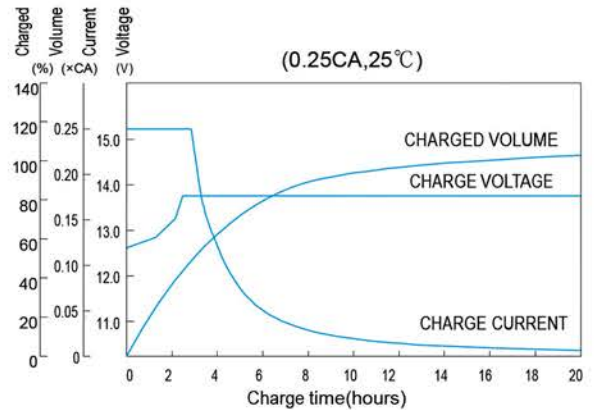
FM/NP Battery Series (General Use Battery)

The operating environment temperature above 40°C should be avoided, After long term storage, The battery actual capacity would be less than the rated capacity. Full capacity will be obtained through several charge/discharge cycles. To get the longest life, Deutsche Power battery should be fully charged before stroge

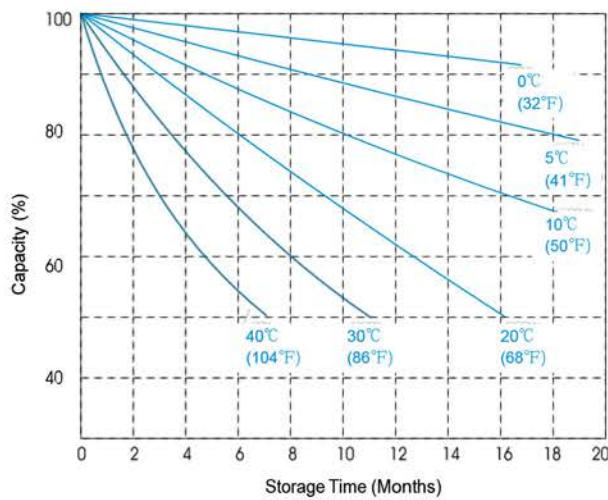
Cycle service life in relation to depth of discharge



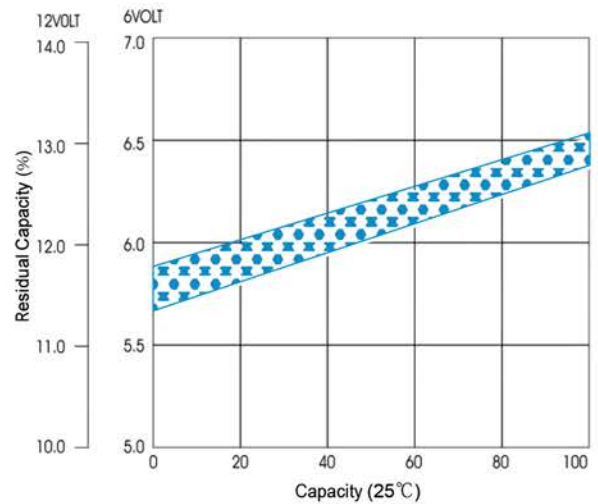
Constant voltage charge characteristic



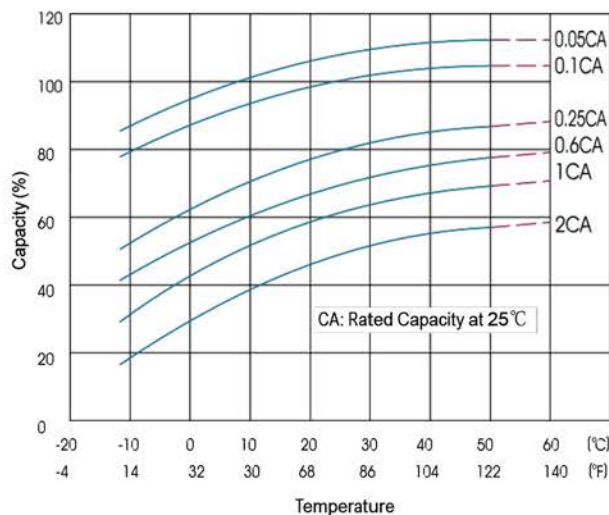
Self-Discharge Characteristics



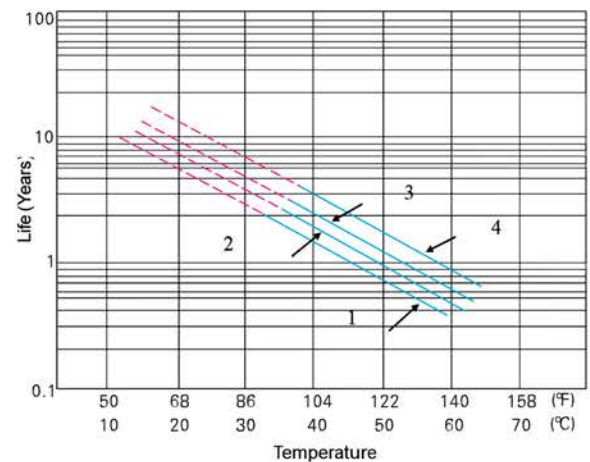
Relationship of OCV and Residual Capacity % (25°C)



Temperature effects on capacity

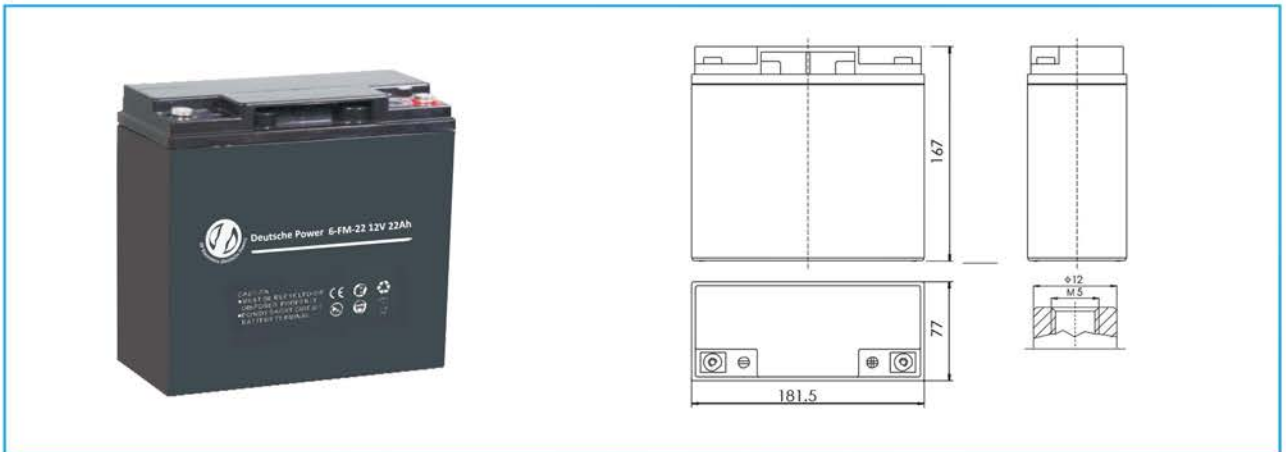


Temperature effects float life



6-FM/NP22

FM/NP Battery Series (General Use Battery)



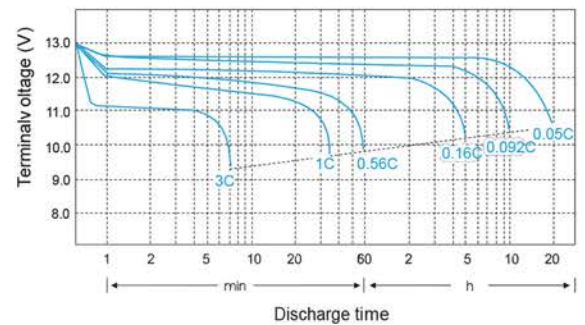
Specifications

Nominal Voltage		12V
Rated Capacity(20 hour rate)		22Ah
Dimensions	Total Height (with terminals)	6.57inches (167mm)
	Height	6.57inches (167mm)
	Length	7.15inches (181.5mm)
	Width	3.03inches (77mm)
Weight		Approx. 13.86pound (6.3kg)

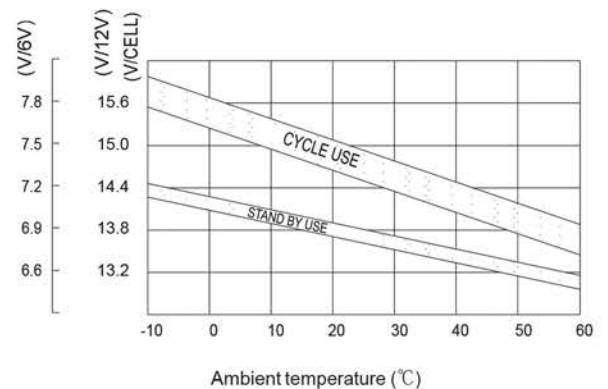
Characteristics

Capacity 77°F(25°C)	20 hour rate (1.1A)	22Ah
	10 hour rate (2.05A)	20.5Ah
		17.6Ah
		13.2Ah
	15 minute Rate (38.7A)	9.7Ah
Internal Resistance	Full charged Battery 77°F(25°C)	12m Ω
Capacity affected by Temperature (20 hour rate)	104°F(40°C)	102%
	77°F(25°C)	100%
	32°F(0°C)	85%
Self-Discharge 77°F(20°C)	Capacity after 3 month storage	91%
	Capacity after 6 month storage	81%
	Capacity after 12 month storage	60%
Max. Discharge Current 77°F(25°C)	330A(5S)	
Terminal	M4	
Charge (Constant Voltage)	Cycle	Initial Charging Current less than 6.6A Voltage 14.4~14.7V/77°F(25°C)
	Float	Voltage 13.5~13.8V/77°F(25°C)

Discharge Curves 77°F(25°C)



Relationship between charge voltage and temperature



Constant Current Discharge (AMPERES @25°C)

F.V/Time	5Min	10Min	15Min	30Min	60Min	2H	3H	4H	5H	10H	20H
9.60	83.82	53.24	42.68	23.76	14.52	8.21	5.65	4.53	3.83	2.09	1.11
9.90	81.84	51.70	41.14	23.10	14.15	7.92	5.59	4.49	3.81	2.07	1.11
10.20	78.10	49.50	39.82	22.66	13.75	7.81	5.52	4.44	3.78	2.05	1.10
10.50	74.80	47.52	38.28	22.44	13.42	7.70	5.50	4.40	3.74	2.05	1.10
10.80	70.40	47.08	36.30	21.78	12.98	7.48	5.41	4.29	3.70	2.00	1.08

Constant Power Discharge (WATTS PER CELL @25°C)

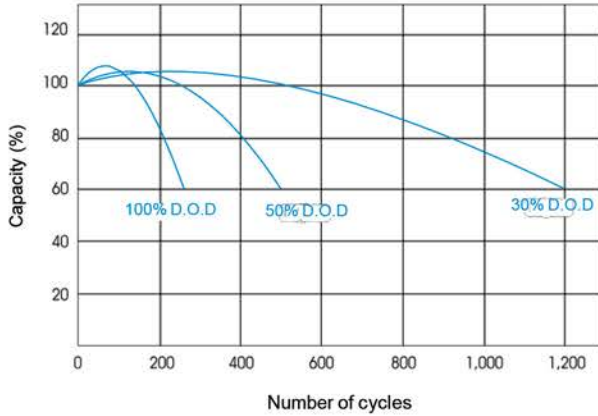
F.V/Time	5Min	10Min	15Min	30Min	60Min	2H	3H	4H	5H	10H	20H
9.60	933.75	598.42	484.84	270.86	167.56	95.91	67.23	53.98	45.63	25.00	13.39
9.90	912.52	581.63	467.76	264.50	163.53	92.65	66.56	53.54	45.53	24.81	13.34
10.20	871.60	557.37	453.15	259.68	159.09	91.53	65.85	53.06	45.21	24.62	13.29
10.50	836.52	536.03	436.01	257.39	155.40	90.40	65.62	52.58	44.73	24.62	13.24
10.80	787.07	532.00	413.87	250.03	150.57	87.89	64.67	51.31	44.25	24.07	13.02

6-FM/NP22

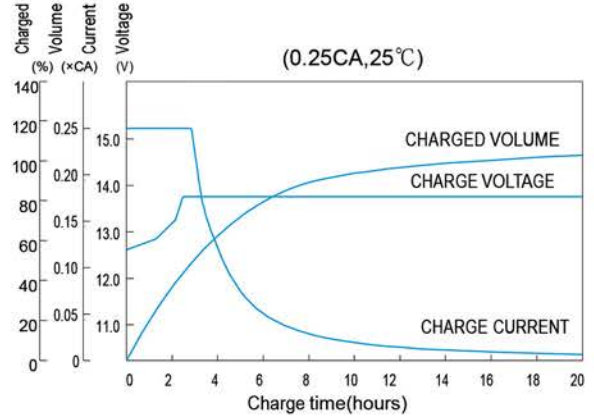
FM/NP Battery Series (General Use Battery)

The operating environment temperature above 40°C should be avoided, After long term storage, The battery actual capacity would be less than the rated capacity. Full capacity will be obtained through several charge/discharge cycles. To get the longest life, Deutsche Power battery should be fully charged before storage

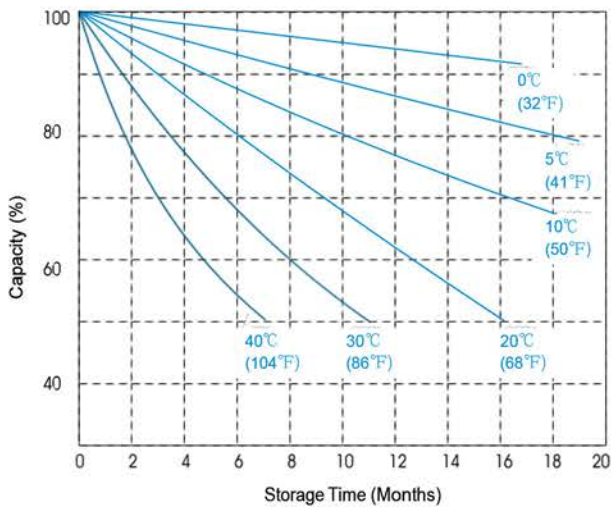
Cycle service life in relation to depth of discharge



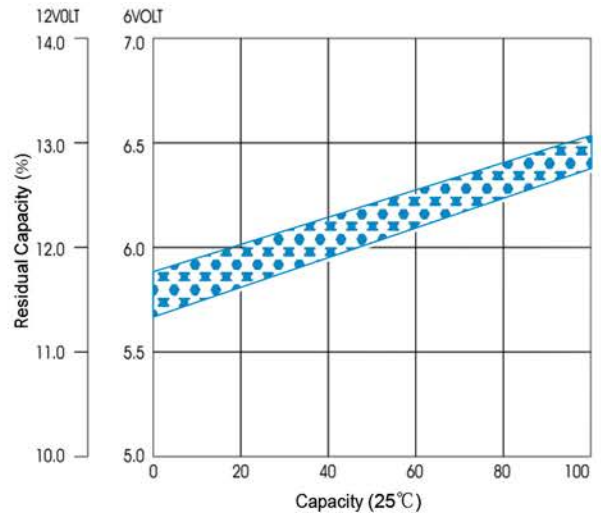
Constant voltage charge characteristic



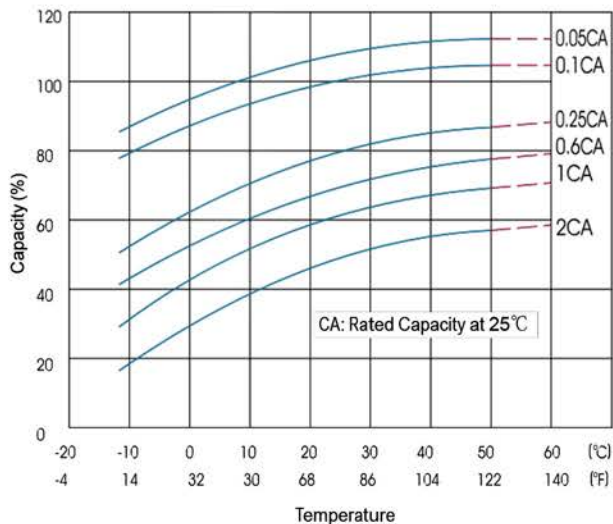
Self-Discharge Characteristics



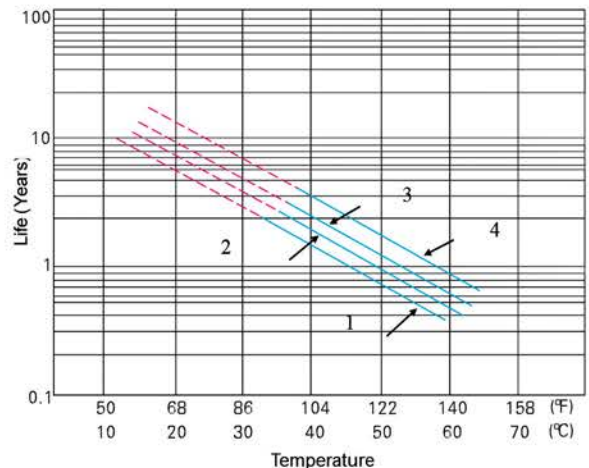
Relationship of OCV and Residual Capacity % (25°C)



Temperature effects on capacity

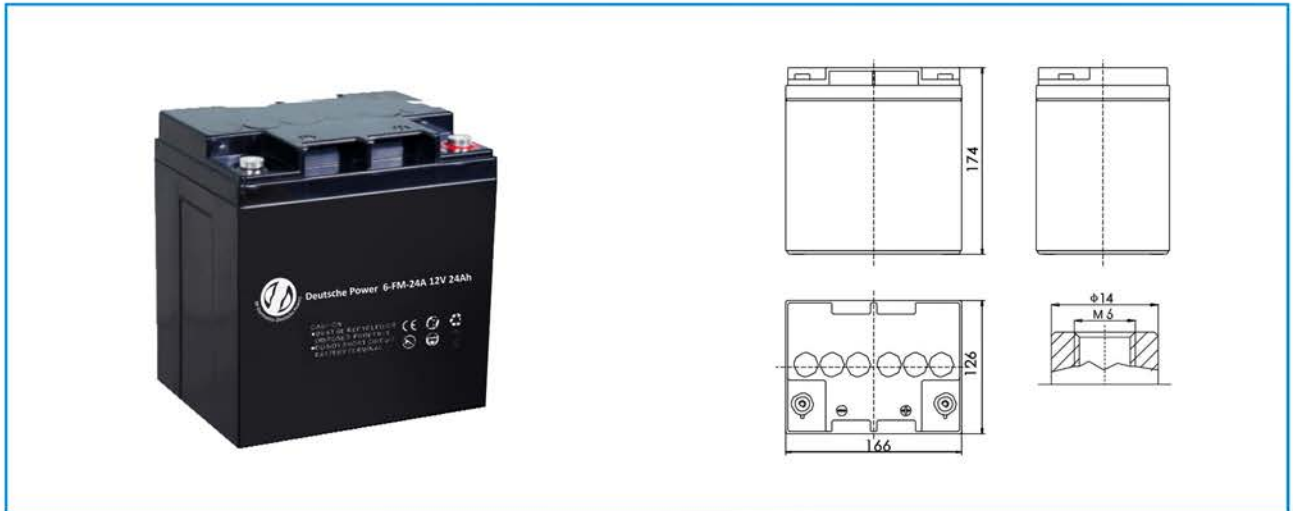


Temperature effects float life



6-FM/NP24

FM/NP Battery Series (General Use Battery)



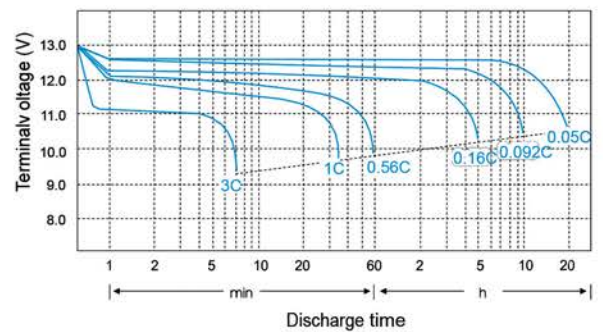
Specifications

Nominal Voltage	12V	
Rated Capacity (20 hour rate)	24Ah	
Dimensions	Total Height (with terminals)	6.85 inches(174mm)
	Height	6.85 inches(174mm)
	length	6.54 inches(166mm)
	width	4.96 inches(126mm)
Weight	Approx.17.6 Pound(8.0kg)	

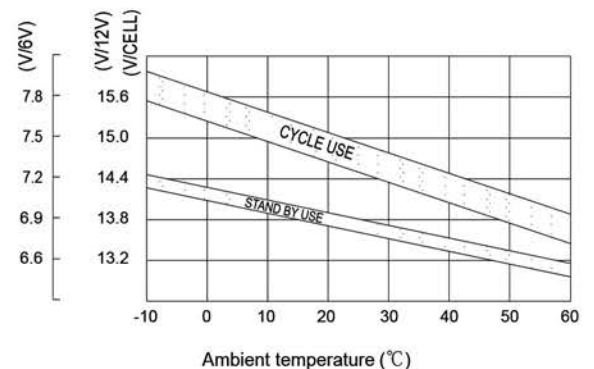
Characteristics

Capacity 77°F(25°C)	20 hour rate (1.20A)	24 Ah
	10 hour rate (2.23A)	22.3 Ah
	5 hour rate (3.84A)	19.2 Ah
	1hour rate (14.4A)	14.4 Ah
	15Minute Rate (42.2A)	10.55 Ah
Internal Resistance	Full charged Battery 77°F(25°C)	12 MΩ
	104°F(40°C)	102%
Capacity affected by Temperature (20hour rate)	77°F(25°C)	100%
	5°F(-15°C)	65%
Self-Discharge 77°F(25°C)	Capacity after 3 month storage	91%
	Capacity after 6 month storage	81%
	Capacity after 12 month storage	60%
Max. Discharge Current 77°F(25°C)	360A(5S)	
Terminal	M1	
Charge (Constant Voltage)	Cycle	Initial Charging Current less than 7.2A Voltage 14.4~14.7 V / 77°F(25°C)
	Float	Voltage 13.5~13.8V / 77°F(25°C)

Discharge Curves 77°F(25°C)



Relationship between charge voltage and temperature



Constant Current Discharge (AMPERES @25°C)

F.V/Time	5Min	10Min	15Min	30Min	60Min	2H	3H	4H	5H	10H	20H
9.6	91.4	58.1	46.6	25.9	15.8	8.95	6.17	4.94	4.18	2.28	1.22
9.9	89.3	56.4	44.9	25.2	15.4	8.64	6.10	4.90	4.16	2.26	1.21
10.2	85.2	54.0	43.4	24.7	15.0	8.52	6.03	4.85	4.13	2.24	1.21
10.5	81.6	51.8	41.8	24.3	16.6	8.40	6.00	4.68	4.03	2.12	1.18
10.8	76.8	51.3	39.6	23.7	14.20	8.20	5.90	4.68	4.03	2.19	1.18

Constant Power Discharge (WATTS PER CELL@25°C)

F.V/Time	5Min	10Min	15Min	30Min	60Min	2H	3H	4H	5H	10H	20H
9.6	1019	653	529	295	183	105	73.3	58.9	49.8	27.3	16.6
9.9	995	635	510	289	179	101	72.6	58.4	49.7	27.1	14.6
10.2	951	608	494	284	170	98.6	71.6	57.4	48.8	26.9	14.5
10.5	911	585	476	281	170	98.6	71.6	57.4	48.8	26.9	14.5
10.8	859	580	451	273	164	95.9	70.6	56.0	48.3	26.3	14.2

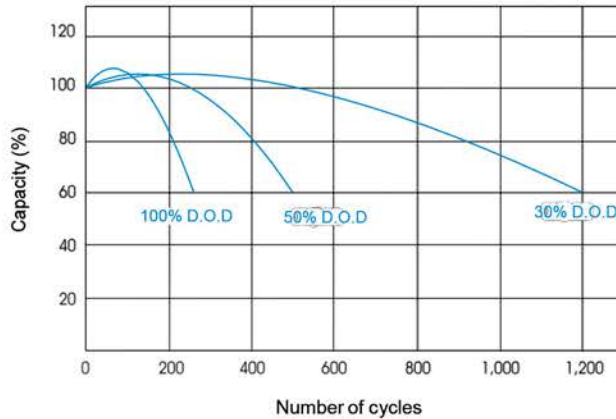
6-FM/NP24

FM/NP Battery Series (General Use Battery)

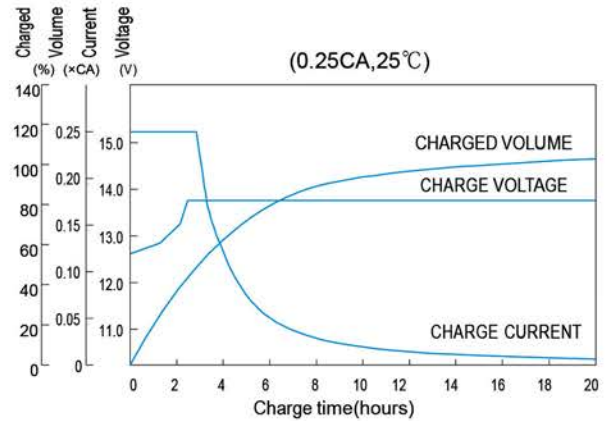
The operating environment temperature above 40°C should be avoided. After long term storage, The battery actual capacity would be less than the rated capacity. Full capacity will be obtained through several charge/discharge cycles.

To get the longest life, Deutsche Power battery should be fully charged before storage

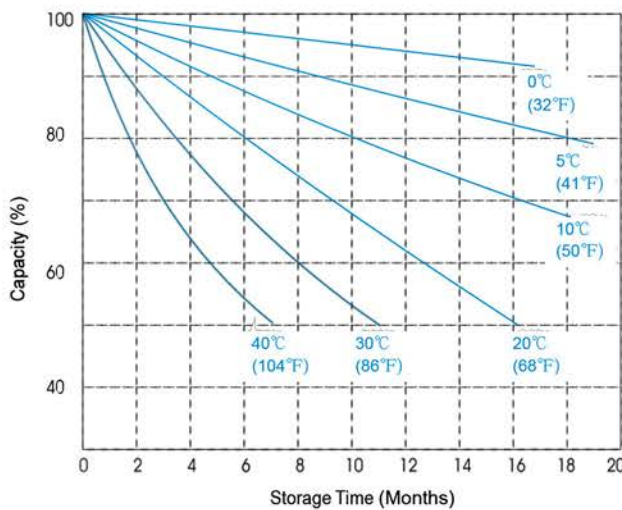
Cycle service life in relation to depth of discharge



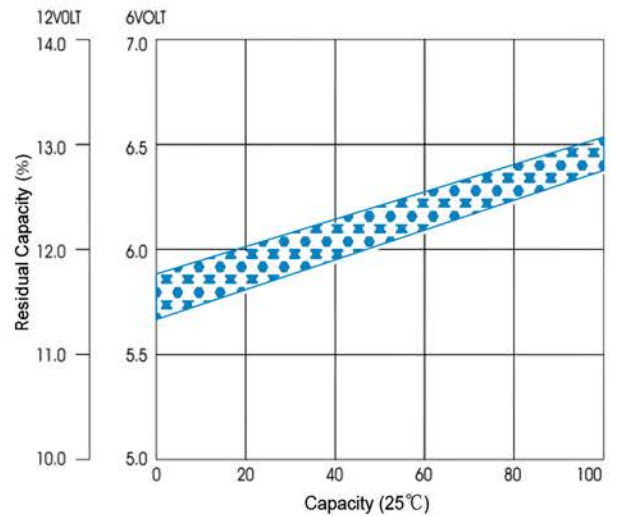
Constant voltage charge characteristic



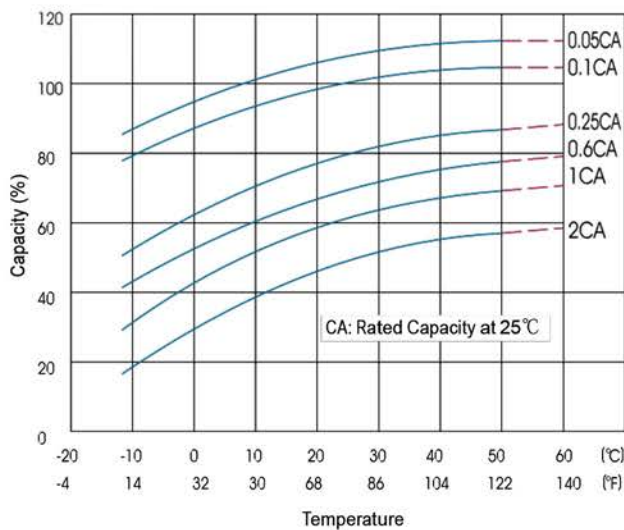
Self-Discharge Characteristics



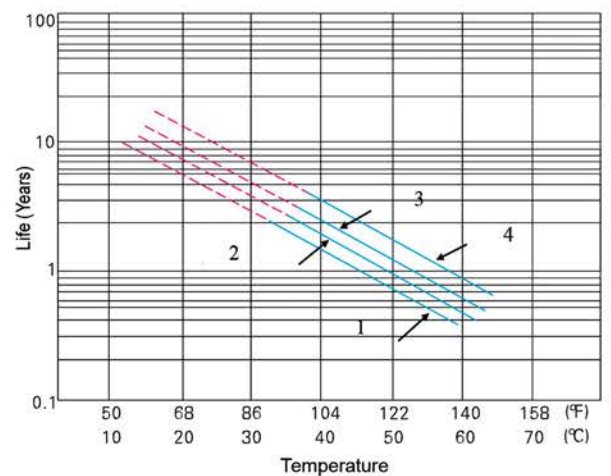
Relationship of OCV and Residual Capacity % (25°C)



Temperature effects on capacity

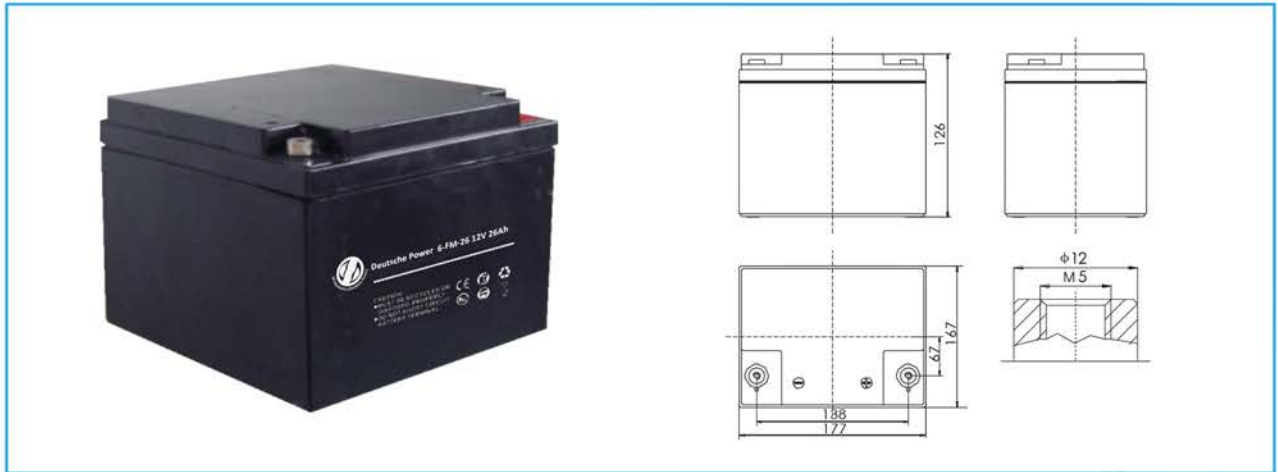


Temperature effects float life



6-FM/NP26

FM/NP Battery Series (General Use Battery)



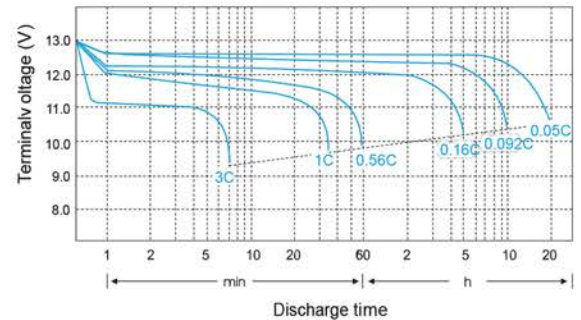
Specifications

Nominal Voltage		12V
Rated Capacity(20 hour rate)		26Ah
Dimensions	Total Height (with terminals)	4.96inches(126mm)
	Height	4.96inches(126mm)
	Length	6.97inches(177mm)
	Width	6.57inches(167mm)
Weight		Approx. 18.48pound(8.4kg)

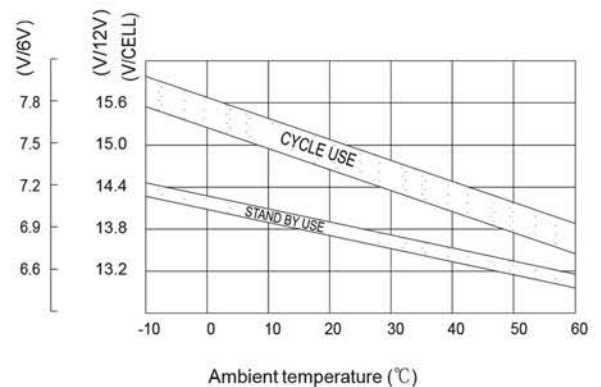
Characteristics

Capacity 77°F(25°C)	20 hour rate (1.30A)	26.0Ah
	10 hour rate (2.41A)	24.1Ah
	5 hour rate (4.16A)	20.8Ah
	1 hour rate (15.6A)	15.6Ah
	15 minute Rate (45.72A)	11.43Ah
Internal Resistance	Full charged Battery 77°F(25°C)	10mΩ
Capacity affected by Temperature (20 hour rate)	104°F(40°C)	102%
	77°F(25°C)	100%
	32°F(0°C)	85%
	5°F(-15°C)	65%
Self-Discharge 77°F(20°C)	Capacity after 3 month storage	91%
	Capacity after 6 month storage	81%
	Capacity after 12 month storage	60%
Max. Discharge Current 77°F(25°C)	390A(5S)	
Terminal	B1/M4	
Charge (Constant Voltage)	Cycle	Initial Charging Current less than 7.8A Voltage 14.4~14.7V/77°F(25°C)
	Float	Voltage 13.5~13.8V/77°F(25°C)

Discharge Curves 77°F(25°C)



Relationship between charge voltage and temperature



Constant Current Discharge (AMPERES @25°C)

F.V/Time	5Min	10Min	15Min	30Min	60Min	2H	3H	4H	5H	10H	20H
9.60	99.06	62.92	50.44	28.08	17.16	9.70	6.68	5.36	4.52	2.47	1.32
9.90	96.72	61.10	48.82	27.30	16.72	9.36	6.60	5.30	4.51	2.45	1.31
10.20	92.30	58.50	47.06	26.78	16.25	9.23	6.53	5.25	4.47	2.43	1.31
10.50	88.40	56.16	45.24	26.52	15.86	9.10	6.50	5.20	4.42	2.43	1.30
10.80	83.20	55.64	42.90	25.74	15.34	8.84	6.40	5.07	4.37	2.37	1.28

Constant Power Discharge (WATTS PER CELL@25°C)

F.V/Time	5Min	10Min	15Min	30Min	60Min	2H	3H	4H	5H	10H	20H
9.60	1103.53	707.22	573.00	320.11	198.03	113.35	79.45	63.79	53.93	29.54	15.82
9.90	1078.43	687.38	552.81	312.59	193.26	109.49	78.65	63.28	53.81	29.32	15.76
10.20	1030.07	658.71	535.54	306.90	188.01	108.18	77.82	62.71	53.43	29.09	15.71
10.50	987.43	633.48	515.28	304.18	183.66	106.83	77.55	62.14	52.86	29.10	15.65
10.80	930.18	628.73	489.12	295.50	177.94	103.87	76.43	60.64	52.30	28.45	15.39

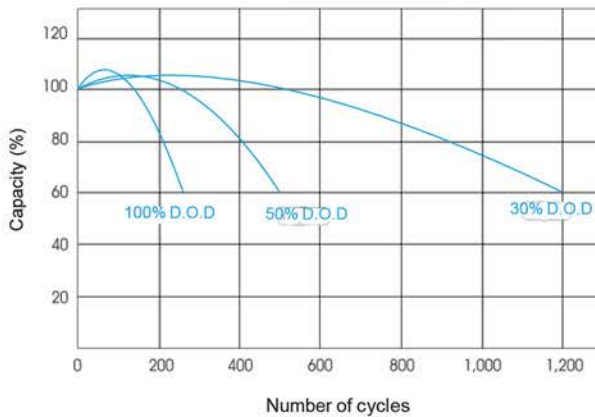
6-FM/NP26

FM/NP Battery Series (General Use Battery)

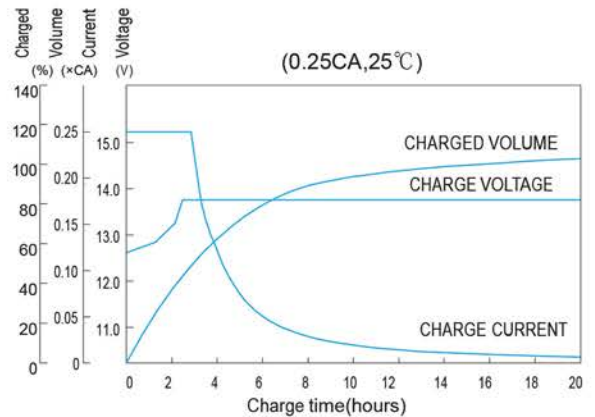
The operating environment temperature above 40°C should be avoided. After long term storage, The battery actual capacity would be less than the rated capacity. Full capacity will be obtained through several charge/discharge cycles.

To get the longest life, Deutsche Power battery should be fully charged before storage

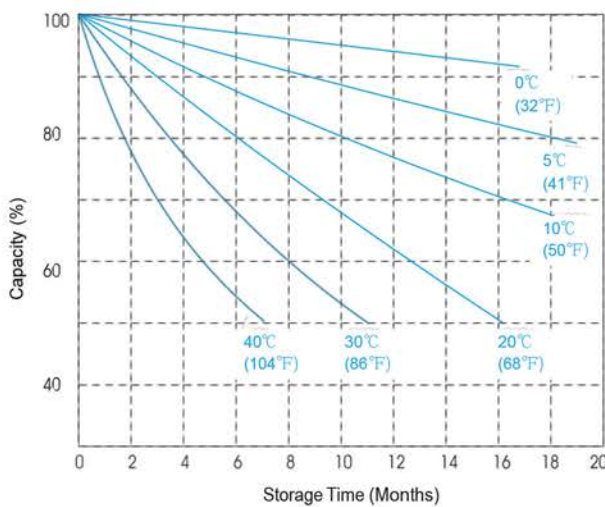
Cycle service life in relation to depth of discharge



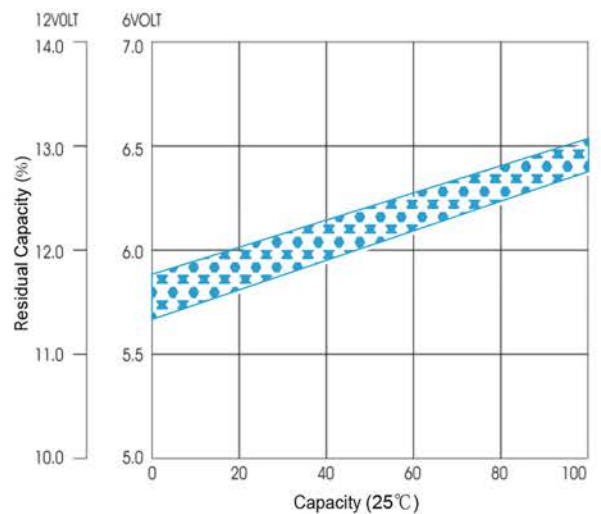
Constant voltage charge characteristic



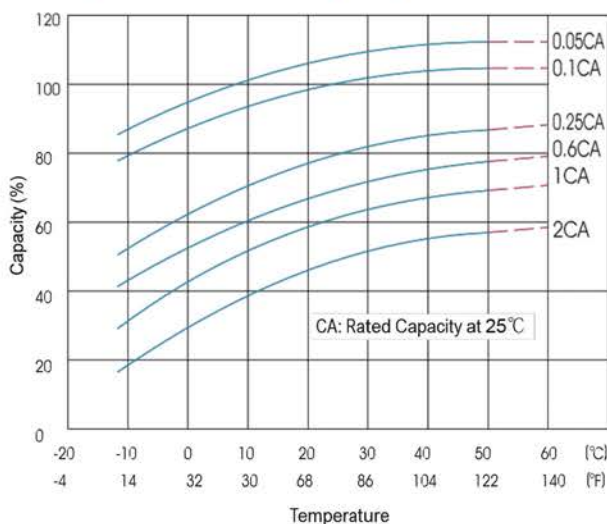
Self-Discharge Characteristics



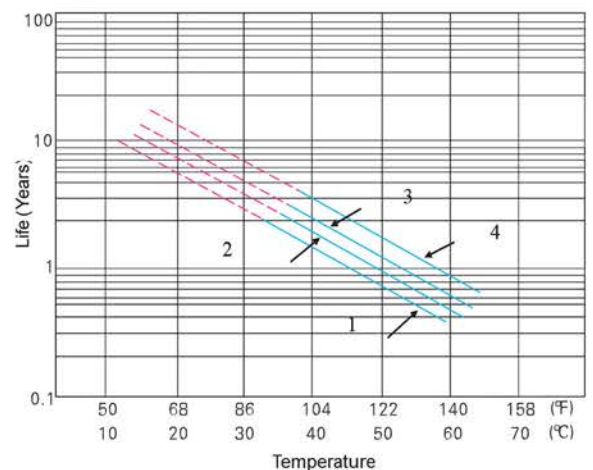
Relationship of OCV and Residual Capacity % (25°C)



Temperature effects on capacity

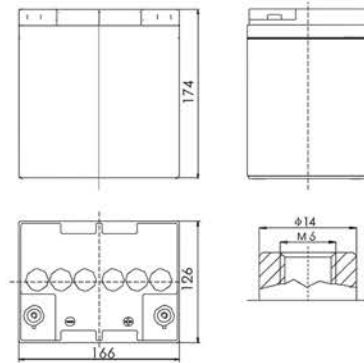


Temperature effects float life



6-FM/NP28

FM/NP Battery Series (General Use Battery)



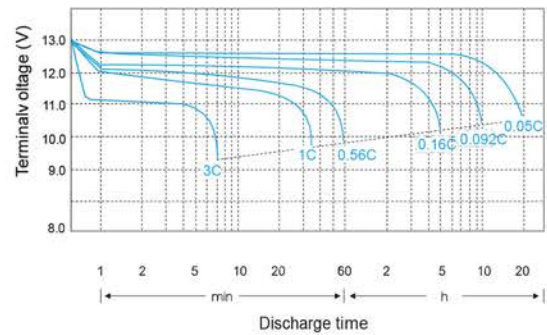
Specifications

Nominal Voltage		12V
Rated Capacity(20 hour rate)		28Ah
Dimensions	Total Height (with terminals)	6.85inches(174mm)
	Height	6.85inches(174mm)
	Length	6.54inches(166mm)
	Width	4.96inches(126mm)
Weight		Approx. 20.9pound(9.5kg)

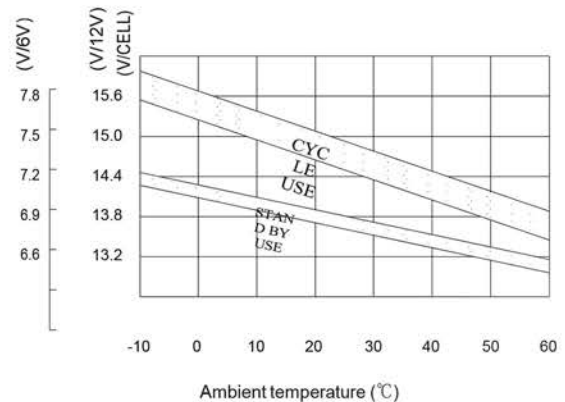
Characteristics

Capacity 77°F(25°C)	20 hour rate (1.40A)	28Ah
	10 hour rate (2.60A)	26Ah
	5 hour rate (4.48A)	22.4Ah
	1 hour rate (16.8A)	16.8Ah
	15 minute Rate (49.2 A)	12.3Ah
Internal Resistance	Full charged Battery 77°F(25°C)	11mΩ
Capacity affected by Temperature (20 hour rate)	104°F(40°C)	102%
	77°F(25°C)	100%
	32°F(0°C)	85%
	5°F(-15°C)	65%
Self-Discharge 77°F(20°C)	Capacity after 3 month storage	91%
	Capacity after 6 month storage	81%
	Capacity after 12 month storage	60%
Max. Discharge Current 77°F(25°C)	420A(5S)	
Terminal	M1	
Charge (Constant Voltage)	Cycle	Initial Charging Current less than 8.4A Voltage 14.4~14.7V/77°F(25°C)
	Float	Voltage 13.5~13.8V/77°F(25°C)

Discharge Curves 77°F(25°C)



Relationship between charge voltage and temperature



Constant Current Discharge @25°C

F.V/Time	5Min	10Min	15Min	30Min	60Min	2H	3H	4H	5H	10H	20H
9.60	106.68	67.76	54.32	30.24	18.48	10.44	7.20	5.77	4.87	2.66	1.42
9.90	104.16	65.80	52.36	29.40	18.00	10.08	7.11	5.71	4.85	2.64	1.41
10.20	99.40	63.00	50.68	28.84	17.50	9.94	7.03	5.66	4.82	2.62	1.41
10.50	95.20	60.48	48.72	28.56	17.08	9.80	7.00	5.60	4.76	2.61	1.40
10.80	89.60	59.92	46.20	27.72	16.52	9.52	6.89	5.46	4.70	2.55	1.38

Constant Power Discharge (WATTS PER CELL@25°C)

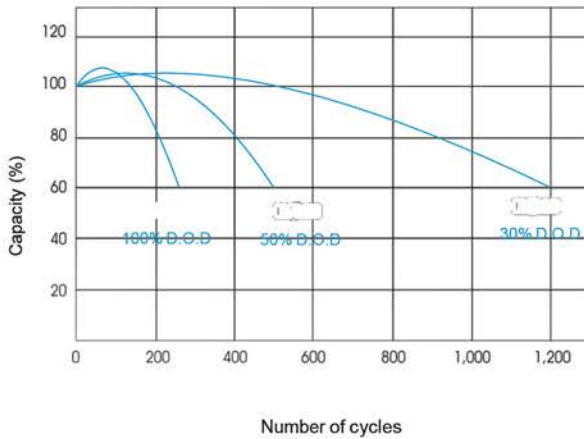
F.V/Time	5Min	10Min	15Min	30Min	60Min	2H	3H	4H	5H	10H	20H
9.60	1188.42	761.62	617.08	344.74	213.26	122.06	85.56	68.70	58.07	31.81	17.04
9.90	1161.38	740.25	595.33	336.63	208.13	117.92	84.70	68.14	57.95	31.57	16.98
10.20	1109.30	709.38	576.74	330.51	202.48	116.50	83.81	67.53	57.54	31.33	16.92
10.50	1063.38	682.21	554.92	327.58	197.79	115.05	83.51	66.92	56.93	31.33	16.86
10.80	1001.73	677.10	526.74	318.23	191.63	111.86	82.31	65.30	56.32	30.64	16.57

6-FM/NP28

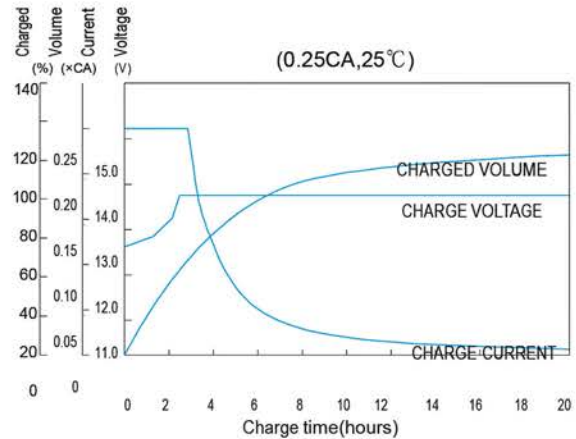
FM/NP Battery Series (General Use Battery)

The operating environment temperature above 40°C should be avoided. After long term storage, The battery actual capacity would be less than the rated capacity. Full capacity will be obtained through several charge/discharge cycles. To get the longest life, Deutsche Power battery should be fully charged before stroge

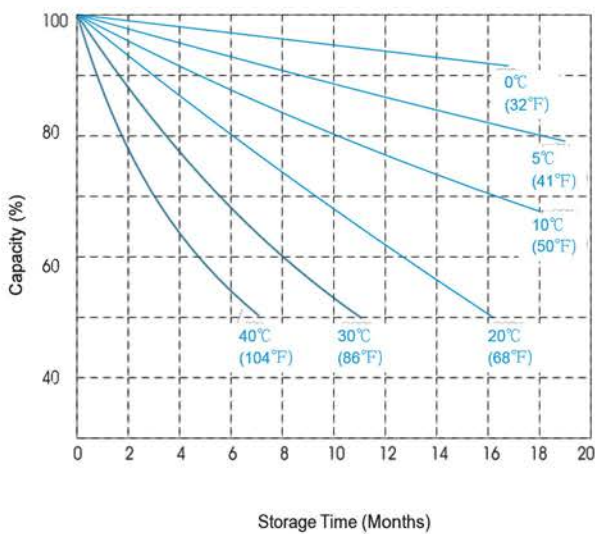
Cycle service life in relation to depth of discharge



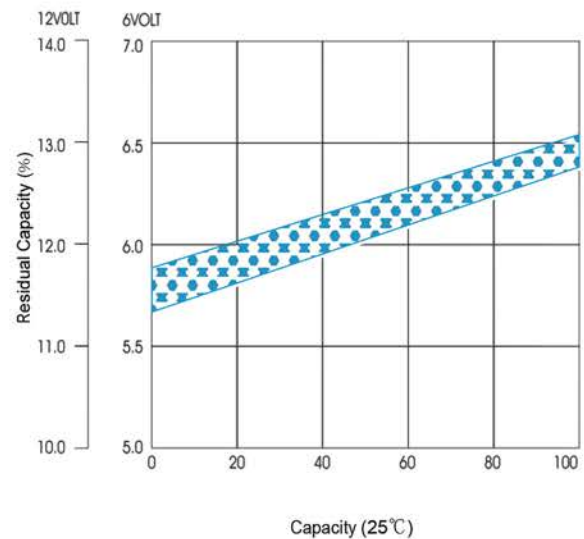
Constant voltage charge characteristic



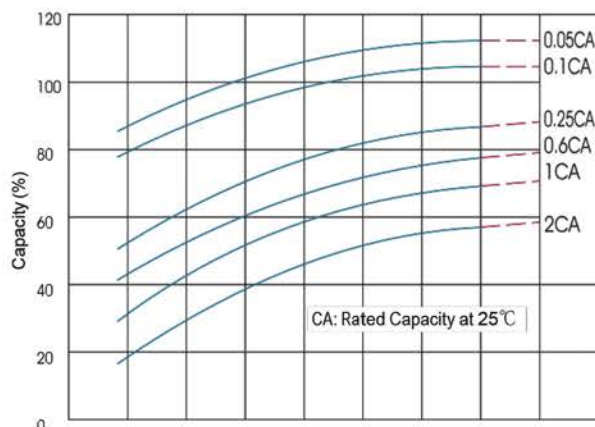
Self-Discharge Characteristics



Relationship of OCV and Residual Capacity % (25°C)



Temperature effects on capacity



Temperature effects float life

