

# TECHNICAL DATA SHEET

## FT100-12



### Product Features

- ❖ Ribbed side wall design to ensure no bulging at higher operating temperature.
- ❖ Singular technology combining superior high-rate power capability and long term reliability
- ❖ Maintenance free AGM VRLA battery with synthetic fiber reinforced absorbent glass mat to ensure high recombination efficiency and life-long compression retention.
- ❖ ABS container and cover resists bulging
- ❖ Flame retardant grade ABS (FRV0) meets safety requirements.
- ❖ Container and cover heat sealed and 100% tested to prevent leaks
- ❖ Corrosion- resistant Lead-Calcium-Tin positive grid alloy, low gassing and water loss feature ensure long service life
- ❖ Flame arresting and self-resealing vent valves
- ❖ Terminals with brass insert for maximum conductivity and epoxy sealing for eliminating leaks
- ❖ Computer aided design and manufacturing process controls ensure quality products.
- ❖ True front access and sleek battery design for ease of maintenance and optimal space utilization
- ❖ Suitable for rack or cabinet installation

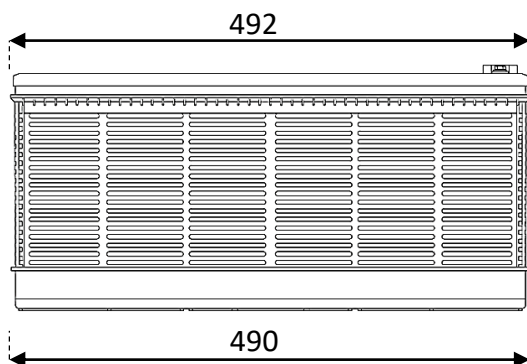
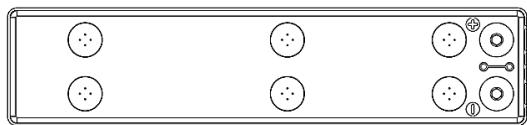
## Specification

Nominal Voltage	12V	
Capacity	100Ah@ C10 upto1.80 ECV @ 25°C	
Dimensions	Length: 492±1 mm	Overall Length including acc.: 513±1 mm
	Width: 110±1 mm	Overall Width including acc.: 110±1 mm
	Height: 231±3 mm	Overall Height including acc.: 241±3 mm
Weight	31.5 kg ± 5%	
Internal Resistance at 25°C	4.0 mΩ	
Terminal Type	M6×20 mm	Terminal Tightness- 11.3 N-m

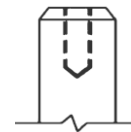
## Charging Parameters

Mode of Operation	Voltage setting per 12V unit for ambience Temp. 20°-30°C	Charging Current
FLOAT	13.62V ± 0.1V	Minimum: 10 Amps Maximum: 30 Amps
BOOST	14.10V ± 0.1V	
Temperature Compensation (Reference Temp- 25°C): -18mV/°C/12V unit		

## Product Outline



## Terminal



M6 Bolt-on Terminal

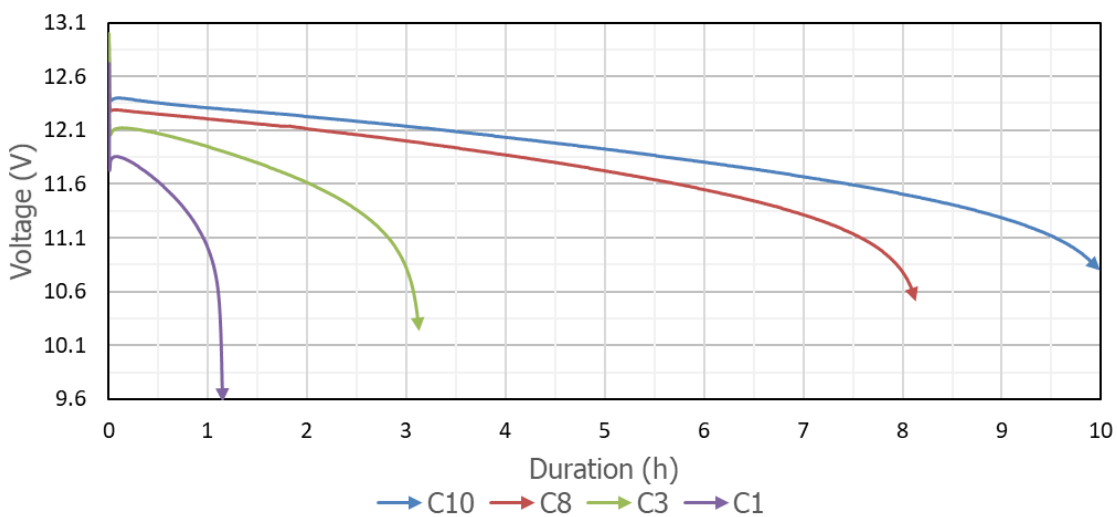
## Construction

- ▶ Positive and negative plates in lead-tin-calcium alloy.
- ▶ Separator – Resilient synthetic fiber reinforced Absorbent Glass Mat separator.
- ▶ The electrolyte is absorbed within this material, preventing acid leakage in case of accidental damage.
- ▶ Terminals with a large surface area with brass insert to provide maximum conductivity.
- ▶ ABS Lid & Container Material ensure robustness
- ▶ Self-regulating pressure relief valve with flame arrestor

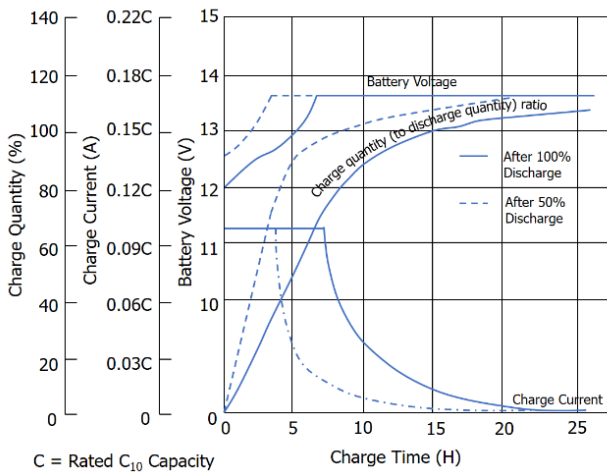
## Constant Current Discharge Rating in Amps at 25° C

ECV	10 min	15 min	20 min	30 min	1 hr	1.5 hr	2 hr	3 hr	4 hr	5 hr	6 hr	8 hr	10 hr
1.60	216	168	138	104	64	48	38.7	27.5	21.6	17.9	15.4	12.2	10.1
1.67	214	167	138	104	63.7	47.7	38.4	27.3	21.5	17.8	15.3	12.1	10.1
1.70	212	166	137	104	63.6	47.6	38.3	27.2	21.4	17.7	15.3	12.1	10
1.75	207	164	136	103	63.3	47.3	38	27	21.2	17.6	15.2	12	10
1.80	197.0	158.0	132.0	101	62.5	46.8	37.6	26.8	21	17.4	15	11.9	9.9
1.85	182.0	148.0	125.0	96.6	60.8	45.6	36.7	26.2	20.6	17.1	14.8	11.7	9.7

## Discharge Characteristics



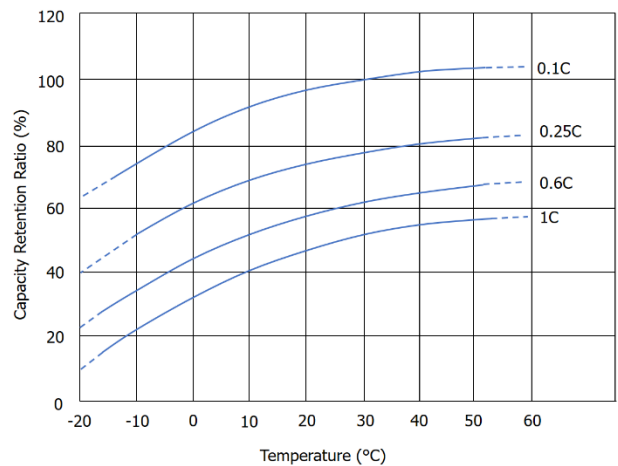
## Charge Characteristics



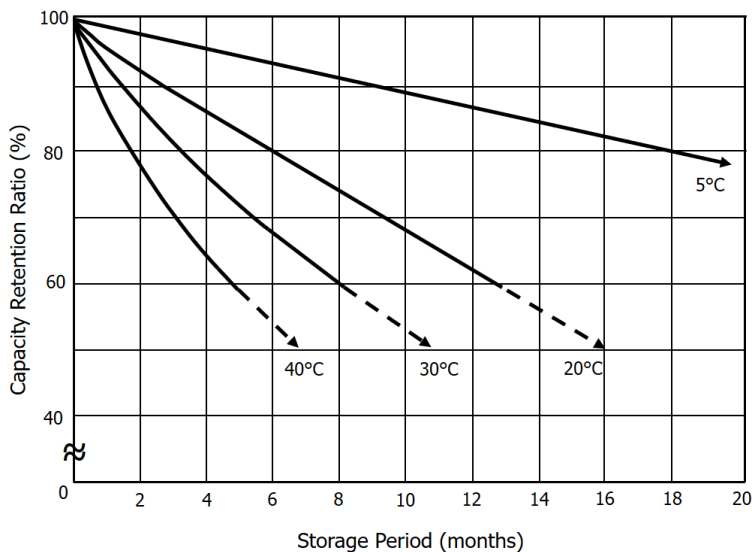
C = Rated  $C_{10}$  Capacity

Charge Characteristics- Standby Use

## Effect of Temperature on Capacity



## Capacity retention characteristics & storage guideline



No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required).

Supplementary charge required before use. This supplementary charge will help to recover the capacity and should be made as early as possible.

Supplementary charge may often fail to recover the capacity. The battery shall never be kept standing till this state is reached.

# TECHNICAL DATA SHEET

## FT150-12



### Product Features

- ❖ Singular technology combining superior high-rate power capability and long term reliability
- ❖ Maintenance free AGM VRLA battery with synthetic fiber reinforced absorbent glass mat to ensure high recombination efficiency and life-long compression retention.
- ❖ ABS container and cover resists bulging
- ❖ Flame retardant grade ABS (FRV0) meets safety requirements.
- ❖ Container and cover heat sealed and 100% tested to prevent leaks
- ❖ Corrosion- resistant Lead-Calcium-Tin positive grid alloy, low gassing and water loss feature ensure long service life
- ❖ Flame arresting and self-resealing vent valves
- ❖ Terminals with brass insert for maximum conductivity and epoxy sealing for eliminating leaks
- ❖ Computer aided design and manufacturing process controls ensure quality products.
- ❖ True front access and sleek battery design for ease of maintenance and optimal space utilization
- ❖ Suitable for rack or cabinet installation

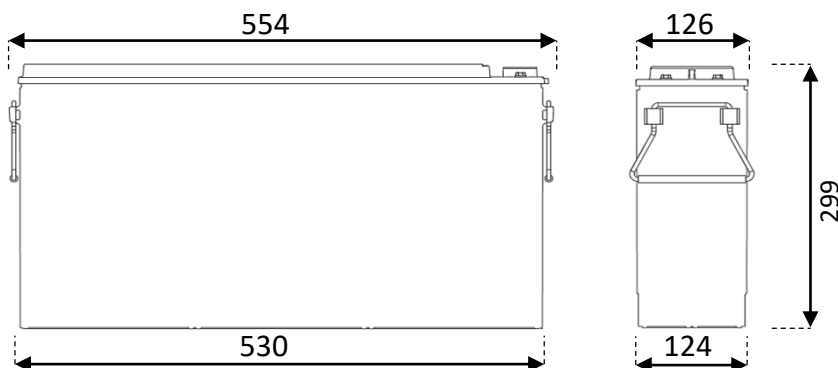
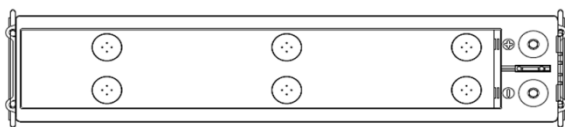
## Specification

Nominal Voltage	12V	
Capacity	150Ah@ C10 upto1.80 ECV @ 25°C	
Dimensions	Length: 554±1 mm	Overall Length including acc.: 568±1 mm
	Width: 126±1 mm	Overall Width including acc.: 126±1 mm
	Height: 299±3 mm	Overall Height including acc.: 299±3 mm
Weight	48.0 kg ± 5%	
Internal Resistance at 25°C	3.7 mΩ	
Terminal Type	M6×20 mm	Terminal Tightness- 11.3 N-m

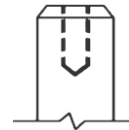
## Charging Parameters

Mode of Operation	Voltage setting per 12V unit for ambience Temp. 20°-30°C	Charging Current
FLOAT	13.62V ± 0.1V	Minimum: 15 Amps Maximum: 45 Amps
BOOST	14.10V ± 0.1V	
Temperature Compensation (Reference Temp- 25°C): -18mV/°C/12V unit		

## Product Outline



## Terminal



M6 Bolt-on Terminal

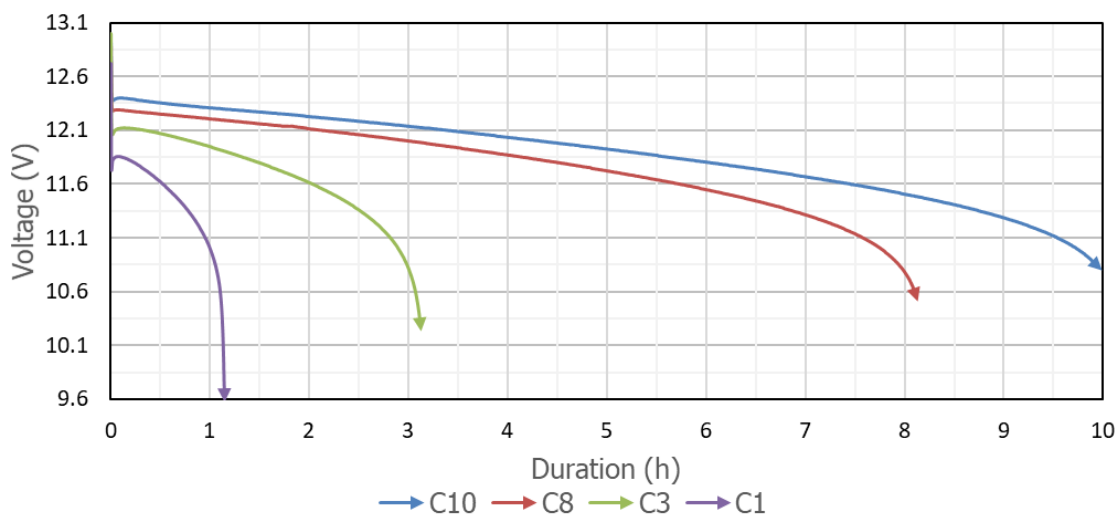
## Construction

- ▶ Positive and negative plates in lead-tin-calcium alloy.
- ▶ Separator – Resilient synthetic fiber reinforced Absorbent Glass Mat separator.
- ▶ The electrolyte is absorbed within this material, preventing acid leakage in case of accidental damage.
- ▶ Terminals with a large surface area with brass insert to provide maximum conductivity.
- ▶ ABS Lid & Container Material ensure robustness
- ▶ Self-regulating pressure relief valve with flame arrestor

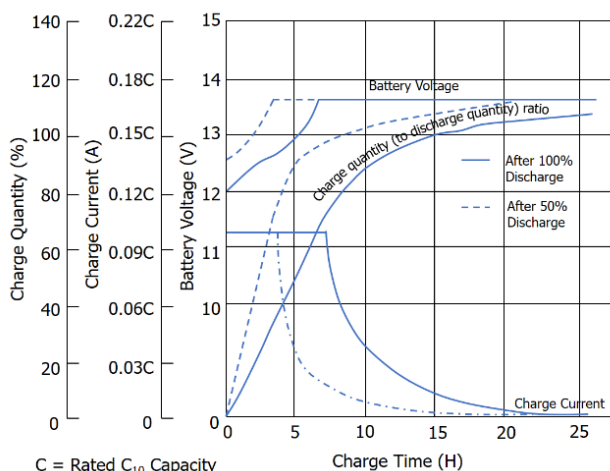
## Constant Current Discharge Rating in Amps at 25° C

ECV	10 min	15 min	20 min	30 min	1 hr	1.5 hr	2 hr	3 hr	4 hr	5 hr	6 hr	8 hr	10 hr
1.60	340	268	220	170	101	70.6	56.9	41.5	33	27.6	24	19.1	15.8
1.67	320	258	214	168	99.4	70	56.4	41.2	32.7	27.4	23.9	19	15.8
1.70	305	250	210	166	98.6	69.6	56.1	41	32.6	27.3	23.8	18.9	15.7
1.75	282	235	201	159	96.6	68.8	55.5	40.6	32.2	27.1	23.6	18.8	15.6
1.80	252	212	182	149	93	67.2	54.2	39.8	31.6	26.6	23.2	18.4	15.3
1.85	210	185	161	135	86.8	63.7	51.3	38	30.2	25.6	22.3	17.7	14.7

## Discharge Characteristics



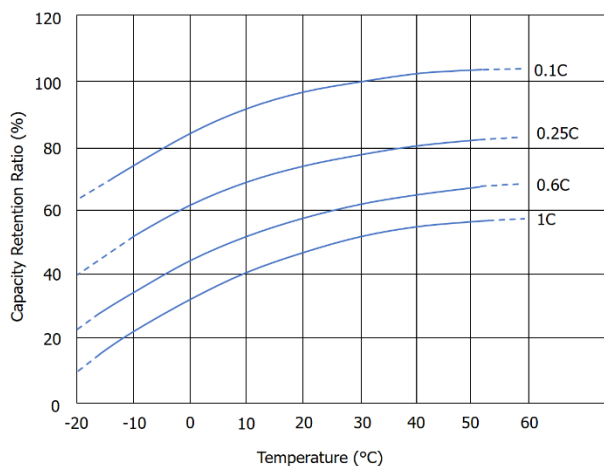
## Charge Characteristics



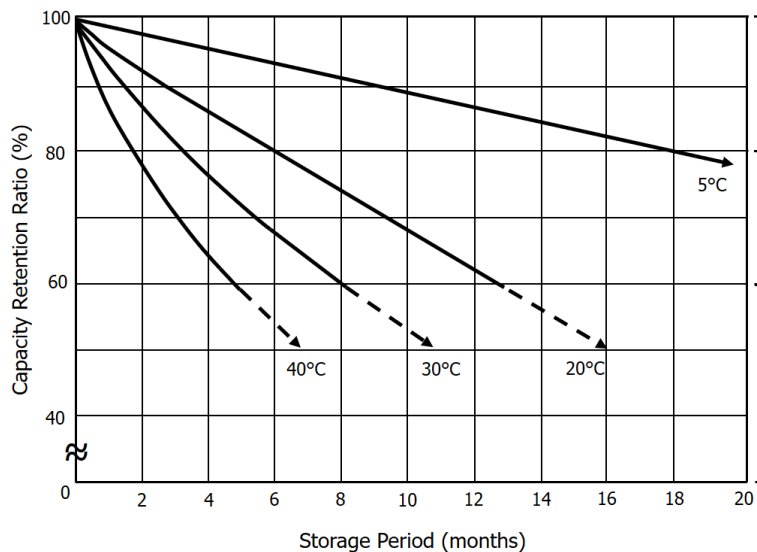
C = Rated  $C_{10}$  Capacity

Charge Characteristics- Standby Use

## Effect of Temperature on Capacity



## Capacity retention characteristics & storage guideline



No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required).

Supplementary charge required before use. This supplementary charge will help to recover the capacity and should be made as early as possible.

Supplementary charge may often fail to recover the capacity. The battery shall never be kept standing till this state is reached.



# TECHNICAL DATA SHEET

## FT170-12



### Product Features

- ❖ Singular technology combining superior high-rate power capability and long term reliability
- ❖ Maintenance free AGM VRLA battery with synthetic fiber reinforced absorbent glass mat to ensure high recombination efficiency and life-long compression retention.
- ❖ ABS container and cover resists bulging
- ❖ Flame retardant grade ABS (FRV0) meets safety requirements.
- ❖ Container and cover heat sealed and 100% tested to prevent leaks
- ❖ Corrosion- resistant Lead-Calcium-Tin positive grid alloy, low gassing and water loss feature ensure long service life
- ❖ Flame arresting and self-resealing vent valves
- ❖ Terminals with brass insert for maximum conductivity and epoxy sealing for eliminating leaks
- ❖ Computer aided design and manufacturing process controls ensure quality products.
- ❖ True front access and sleek battery design for ease of maintenance and optimal space utilization
- ❖ Suitable for rack or cabinet installation

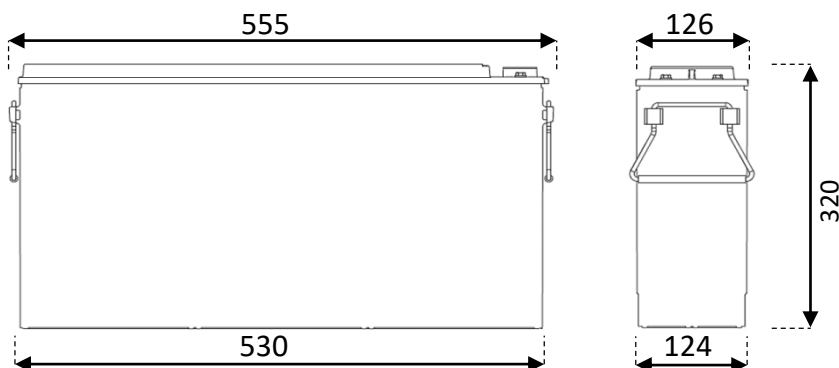
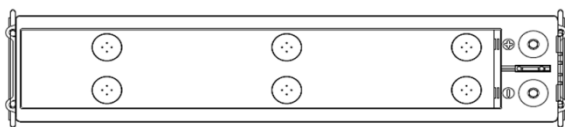
## Specification

Nominal Voltage	12V	
Capacity	170Ah@ C10 upto1.80 ECV @ 25°C	
Dimensions	Length: 555±1 mm	Overall Length including acc.: 568±1 mm
	Width: 126±1 mm	Overall Width including acc.: 126±1 mm
	Height: 320±3 mm	Overall Height including acc.: 320±3 mm
Weight	54.0 kg ± 5%	
Internal Resistance at 25°C	3.4 mΩ	
Terminal Type	M6×20 mm	Terminal Tightness- 11.3 N-m

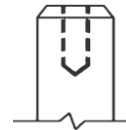
## Charging Parameters

Mode of Operation	Voltage setting per 12V unit for ambience Temp. 20°-30°C	Charging Current
FLOAT	13.62V ± 0.1V	Minimum: 17 Amps Maximum: 51 Amps
BOOST	14.10V ± 0.1V	
Temperature Compensation (Reference Temp- 25°C): -18mV/°C/12V unit		

## Product Outline



## Terminal



M6 Bolt-on Terminal

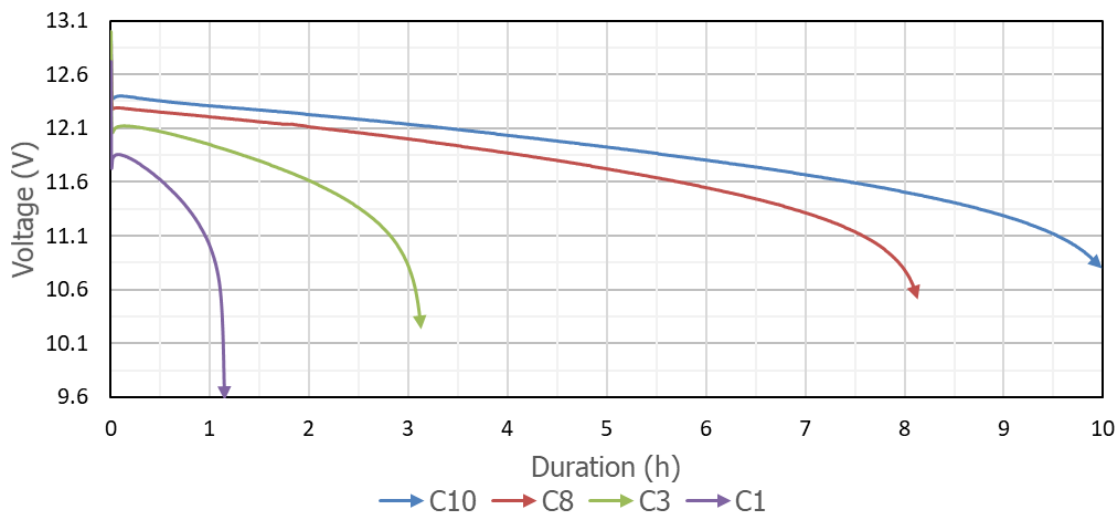
## Construction

- ▶ Positive and negative plates in lead-tin-calcium alloy.
- ▶ Separator – Resilient synthetic fiber reinforced Absorbent Glass Mat separator.
- ▶ The electrolyte is absorbed within this material, preventing acid leakage in case of accidental damage.
- ▶ Terminals with a large surface area with brass insert to provide maximum conductivity.
- ▶ ABS Lid & Container Material ensure robustness
- ▶ Self-regulating pressure relief valve with flame arrestor

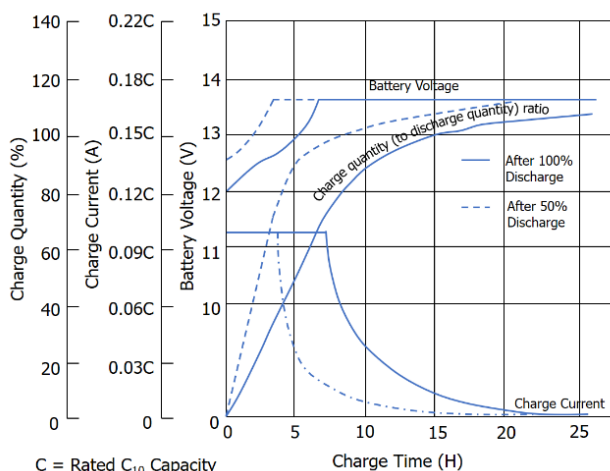
## Constant Current Discharge Rating in Amps at 25° C

ECV	10 min	15 min	20 min	30 min	1 hr	1.5 hr	2 hr	3 hr	4 hr	5 hr	6 hr	8 hr	10 hr
1.60	366	280	243	182	110.0	82.2	65.1	45.6	37.4	31.4	27.2	19.9	17.7
1.67	331	259	232	177	109.0	81.2	64.5	45.3	37.1	31.2	27.0	20.1	17.6
1.70	313	247	224	174	107.0	80.7	64.2	45.0	37.0	31.0	26.9	20.1	17.5
1.75	292	226	209	165	105.0	79.4	63.5	44.6	36.7	30.8	26.7	20.3	17.3
1.80	246	199	189	152	100.0	77.1	62.1	43.8	36.1	30.3	26.3	20.0	17.0
1.85	180	149	148	122	91.4	72.5	58.9	41.9	34.7	29.2	25.3	19.3	16.6

## Discharge Characteristics



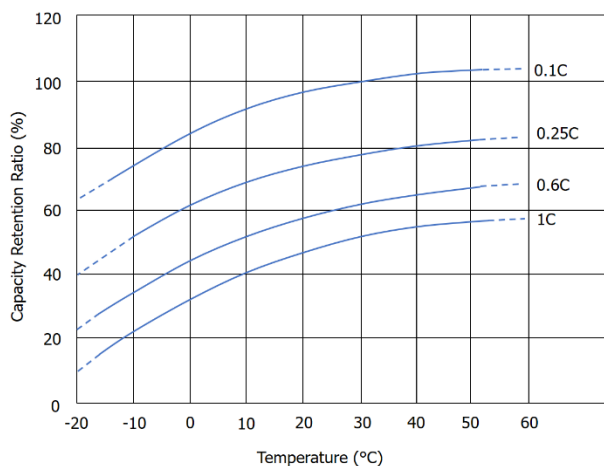
## Charge Characteristics



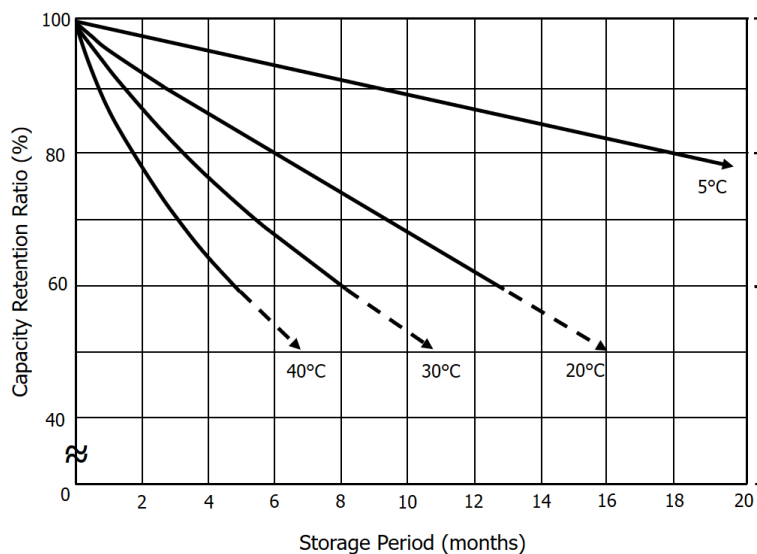
C = Rated  $C_{10}$  Capacity

Charge Characteristics- Standby Use

## Effect of Temperature on Capacity



## Capacity retention characteristics & storage guideline



No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required).

Supplementary charge required before use. This supplementary charge will help to recover the capacity and should be made as early as possible.

Supplementary charge may often fail to recover the capacity. The battery shall never be kept standing till this state is reached.

# TECHNICAL DATA SHEET

## FT200-12



### Product Features

- ❖ Singular technology combining superior high-rate power capability and long term reliability
- ❖ Maintenance free AGM VRLA battery with synthetic fiber reinforced absorbent glass mat to ensure high recombination efficiency and life-long compression retention.
- ❖ ABS container and cover resists bulging
- ❖ Flame retardant grade ABS (FRV0) meets safety requirements.
- ❖ Container and cover heat sealed and 100% tested to prevent leaks
- ❖ Corrosion- resistant Lead-Calcium-Tin positive grid alloy, low gassing and water loss feature ensure long service life
- ❖ Flame arresting and self-resealing vent valves
- ❖ Terminals with brass insert for maximum conductivity and epoxy sealing for eliminating leaks
- ❖ Computer aided design and manufacturing process controls ensure quality products.
- ❖ True front access and sleek battery design for ease of maintenance and optimal space utilization
- ❖ Suitable for rack or cabinet installation

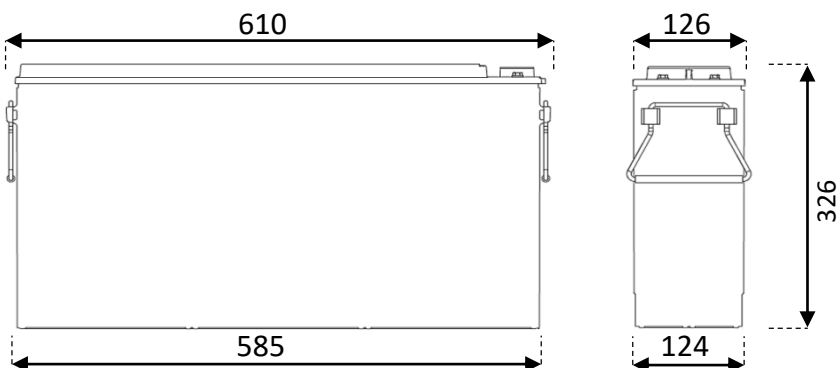
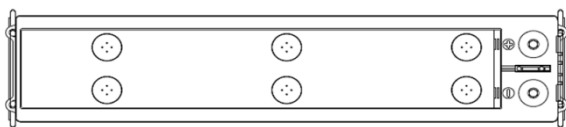
## Specification

Nominal Voltage	12V	
Capacity	200Ah@ C10 upto1.80 ECV @ 25°C	
Dimensions	Length: 610±1 mm	Overall Length including acc.: 622±1 mm
	Width: 126±1 mm	Overall Width including acc.: 126±1 mm
	Height: 326±3 mm	Overall Height including acc.: 326±1 mm
Weight	69.0 kg±5%	
Internal Resistance at 25°C	2.7 mΩ	
Terminal Type	M6×20 mm	Terminal Tightness- 11.3 N-m

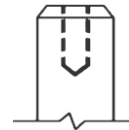
## Charging Parameters

Mode of Operation	Voltage setting per 12V unit for ambience Temp. 20°-30°C	Charging Current
FLOAT	13.62V ± 0.1V	Minimum: 20 Amps Maximum: 60 Amps
BOOST	14.10V ± 0.1V	
Temperature Compensation (Reference Temp- 25°C): -18mV/°C/12V unit		

## Product Outline



## Terminal



M6 Bolt-on Terminal

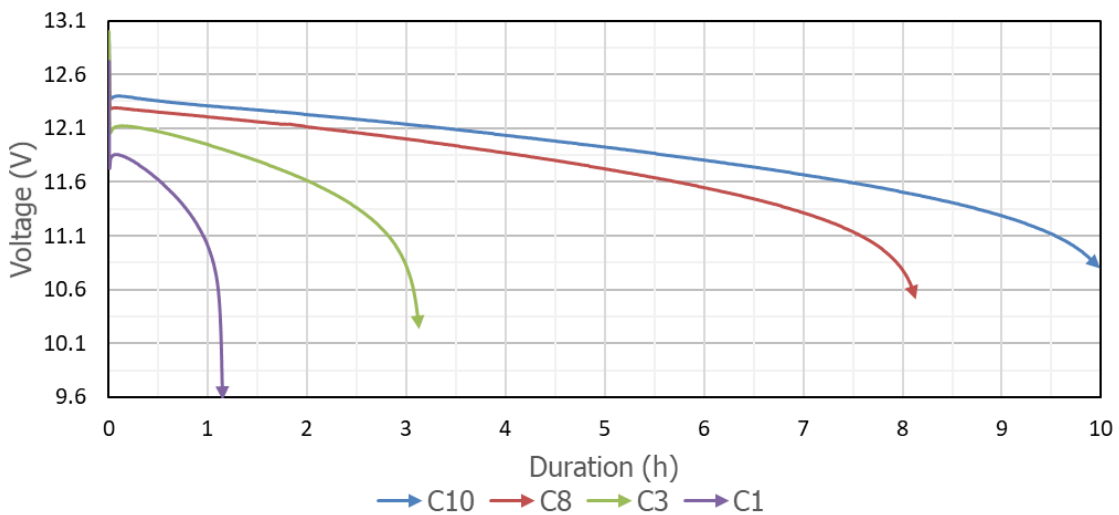
## Construction

- ▶ Positive and negative plates in lead-tin-calcium alloy.
- ▶ Separator – Resilient synthetic fiber reinforced Absorbent Glass Mat separator.
- ▶ The electrolyte is absorbed within this material, preventing acid leakage in case of accidental damage.
- ▶ Terminals with a large surface area with brass insert to provide maximum conductivity.
- ▶ ABS Lid & Container Material ensure robustness
- ▶ Self-regulating pressure relief valve with flame arrestor

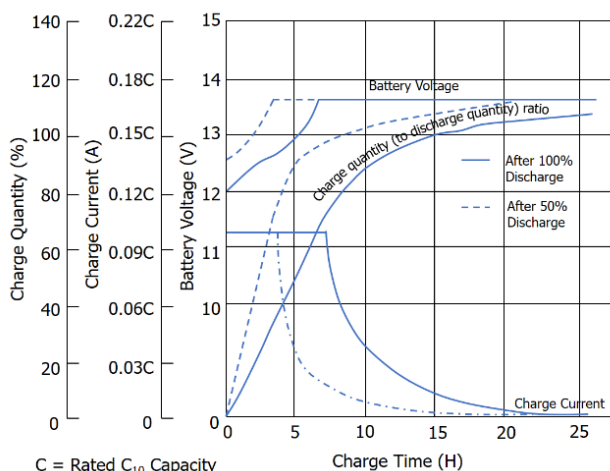
## Constant Current Discharge Rating in Amps at 25° C

ECV	10 min	15 min	20 min	30 min	1 hr	1.5 hr	2 hr	3 hr	4 hr	5 hr	6 hr	8 hr	10 hr
1.60	540	440	366	270	154	113	89.5	57.7	48.2	39.4	33.4	24.3	20.8
1.67	490	410	347	263	151	113	88.6	57.1	47.8	39.1	33.1	24.2	20.7
1.70	465	389	334	258	150	112	88.0	56.7	47.5	38.9	33.0	24.0	20.6
1.75	420	356	309	242	147	110	86.3	55.6	46.7	38.3	32.5	23.7	20.4
1.80	370	319	280	223	138	105	83.2	53.6	45.3	37.2	31.6	23.1	20.0
1.85	314	274	244	196	125	96.2	77.0	50.0	42.7	35.5	30.0	22.3	19.0

## Discharge Characteristics



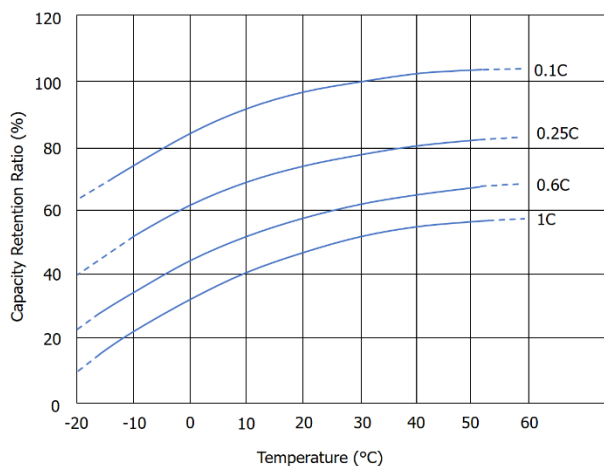
## Charge Characteristics



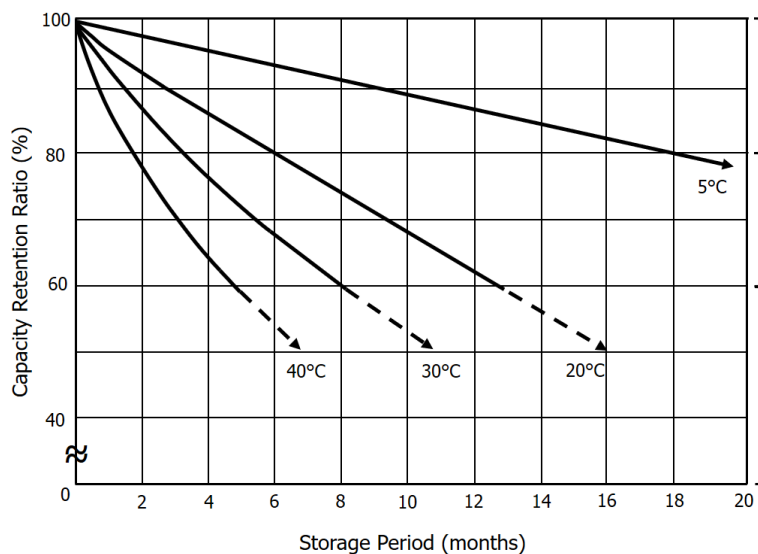
C = Rated  $C_{10}$  Capacity

Charge Characteristics- Standby Use

## Effect of Temperature on Capacity



## Capacity retention characteristics & storage guideline



No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required).

Supplementary charge required before use. This supplementary charge will help to recover the capacity and should be made as early as possible.

Supplementary charge may often fail to recover the capacity. The battery shall never be kept standing till this state is reached.