

Product Specification for T12 and Z15

1. Patient monitor type

Standard electric shock proof	Class I electric shock proof equipment
EMC	Class A
Standard electric shock proof level	ECG(RESP): GF type; SpO ₂ , NIBP: B type; TEMP: BF type
Liquid-proof level:	Generally sealed equipment without liquid-proof function
Working method	Continuous
Application	Adult, Pediatric, Infant (Horse, Dog, Cat)

2. Patient monitor specification

2.1 Patient monitor dimensions and weight

Model	Color TFT LCD (Touch screen is optional)	Size	Weight
T12	12.1-inch, 800×600 pixels	306×287×172 mm	3.4Kg
Z15	15-inch, 1024×768 pixels	340×368×185 mm	4.4Kg

2.2 Working environment

Temperature range	
Working	0 ~ 40 °C
Transportation and store	-20 ~ 60 °C
Humidity range	
Working	≤85 %
Transportation and store	≤93% (No dew condensation)
Altitude range	
Working	-500 — 4,600m (-1,600 — 15,000 feet)
Transportation and store	-500 — 13,100m (-1,600 — 43,000 feet)

Electric specification

AC 100—240 V, 50/60 Hz, max. 70VA of input power
Fuse is T 3.15A display specification.

2.3 Displayed information

Min. 8 waves
One alarm indicator (Yellow/Red)
One working indicator (Green)
One battery charging state indicator (Yellow)
Three audible alarm modes corresponding to alarm states
Waveform sweep speed: 6.25, 12.5, 25 and 50 mm/s

2.4 Battery

2.2 Ah 14.8V Li-ion rechargeable battery
Normal state full battery working time: >100 minutes
Counting from the first alarm for low battery, it can still work for 5 minutes.
Max. charge time for battery: 8 hours

2.5 Recorder (Optional)

Record width	48mm
Paper speed	25 mm/S, 50mm/S(optional)

Description wave 2 waves
Record type 8 seconds real time record

2.6 Data Storage

Trend graph and table	720 hours
Alarm review	200 events
NIBP review	1000 groups
Wave review	2 hours

2.7 Signal Output Specifications

Network connector	Standard RJ45 connector
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2.8 Wireless Network (optional)

Standards	IEEE 802.11g, Wi-Fi compatible
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3. ECG Specification(Optional)

3.1 Lead configuration

Standard 3-lead or 5-lead

3-lead RA、LA、LL, Lead method: I, II, III

5-lead RA、LA、LL、RL、V, Lead method: I, II, III, aVR, aVL, aVF, V

3.2 Increase

×0.25, ×0.5, ×1, ×2, AUTO

3.3 HR

Range

Adult(Horse) 15 ~ 300bpm (beat/minute)

Neonatal baby/children(dog/cat) 15 ~ 350 bpm(beat/minute)

Precision ±1% or ±1bpm, the larger prevails

Resolution 1 bpm(beat/minute)

3.4 Sensitivity

> 200 μV (Peak-to-peak value)

3.5 Input Impedance

> 5 (megohm)

3.6 Bandwidth

Diagnostic mode 0.05~130Hz

Monitoring Mode 0.5~40Hz

Operation mode 1~20Hz

3.7 Common Mode rejection Ratio

Diagnostic mode > 90 dB

Monitoring Mode > 100 dB

Operation mode > 100 dB

3.8 Pole Polarization Voltage Range

±300mV

3.9 Pacing Pulse Test

Test pacing pulse in accordance with the following conditions:

Amplitude: ±2 mV ~ ±700mV

Width: 0.1ms ~ 2ms

Risetime: 10 μ s~100 μ s

3.10 Pacing Pulse Inhibition

When pacing analysis switch is on, pacing pulse in accordance with the following conditions are restrained, but affection against HR calculation.

Amplitude: ± 2 mV ~ ± 700 mV

Width: 0.1ms ~ 2ms

Risetime: 10 μ s ~ 100 μ s

3.11 Baseline Recovering Time

After defibrillation< 3 seconds

3.12 Signal Range

± 8 mV (Peak-to-peak value)

3.13 Calibrating Signal

1mV(Peak-to-peak value), precision $\pm 5\%$

3.14 ST Segment Measuring Volume

Measuring range: -2.0mV ~ +2.0mV

Measuring precision: Ranging -0.8 mV~+0.8mV, measuring error is ± 0.02 mV or $\pm 10\%$. The larger prevails. No definition for other ranges.

3.15 Signal Resource

4. RESP Specification (Optional)

4.1 Measuring Method

RA-LL impedance

4.2 RESP Impedance Measuring Range

0.3~3 Ω

4.3 Base Impedance Range

200~4000 Ω

4.4 Bandwidth

0.1~2.5Hz

4.5 RESP Rate

Range

Adult (Horse) 0~120 BrPM

Children and neonatal (Dog/Cat) 0~150 BrPM

Resolution 1 BrPM

Precision ± 2 BrPM

4.6 Asphyxia Alarm

10~40 seconds

5. SpO₂ specification

5.1 Blood Oxygen Saturation

Measuring range 0~100%

Resolution 1%

Precision 70~100%: ± 2 DIGIT
0%~69%: No definition

5.2 Pulse rate

Measuring range	20~300bpm
Resolution	1bpm
Precision	±2bpm

6. TEMP specification

6.1 Applicable Temperature Probe

YSI series, CYF series

6.2 Channels quantity

2 channels

6.3 Measurement

Range	0~50°C
Resolution	0.1°C
Precision	±0.1°C (Excluding probe error)

7. NIBP Specification

7.1 Measuring Method

Pulse wave oscillometry

7.2 Work Mode

Manual/Auto/Continual

7.3 Measuring Interval of AUTO Measuring Mode

1,2,3,4,5,10,15,30,60,90,120,180,240,480 minute(s)

7.4 Measuring Time of CONTINUAL Mode

5 minutes

7.5 PR range

40 – 300 bpm

7.6 Measuring Range and Precision

Range

Adult (Horse)	Systolic blood pressure	40~270mmHg
	Diastolic blood pressure	10~215mmHg
	Mean blood pressure	20~235mmHg
Children (Dog)	Systolic blood pressure	40~200mmHg
	Diastolic blood pressure	10~150mmHg
	Mean blood pressure	20~165mmHg
Neonatal baby (Cat)	Systolic blood pressure	40~135mmHg
	Diastolic blood pressure	10~100mmHg
	Mean blood pressure	20~110mmHg

Static pressure range 0~300mmHg

Static pressure precision ±2mmHg

Pressure precision: Max. average error: ±5mmHg; Max. standard deviation: 8mmHg

7.7 Overvoltage Protection

Adult (Horse)mode	300 mmHg±10mmHg
Children(Dog) mode	240 mmHg±10mmHg
Neonatal baby(Cat) mode	150 mmHg±10mmHg

8. CO₂ Specifications (optional)

Measurement Range

0% ~ 13%

Resolution

1 mmHg

Accuracy

2 mmHg @ < 5.0% CO₂ (at ATPS)

Breath Rate

Breath Rate 3 - 150 bpm, ±1 bpm

9. Default Settings

Patient Information

Patient Type	Adult/Ped./Neo	Horse/Dog/Cat
Bed number	1	
Gender	Male	

Alarm Setting

Alarm Volume	5
Flicker	Off
Parameter Alarm	None bolt-lock
Alarm Record	Off
Voice Alarm	On

Record Setting

Record Waveform 1	ECG1
Record Waveform 1	ECG2
Record Length	8S
Inter-record Gap	Off
Record Speed	25mm/s
Record Grid	On

ECG Setting

Pacemaker	Off
Channel 1 Lead	II
Channel 1 Amplitude	X1
Channel 2 Lead	I
Channel 2 Amplitude	X1
Notch	On
Filter	Monitor

Heartbeat Volume	5
Waveform Speed	6.25mm/s, 12.5mm/s, 25mm/s, 50mm/s
HR Source	Auto

Resp Setting

Apnea Time	40s
Waveform Size	X2
Waveform Speed	6.25mm/s, 12.5mm/s, 25mm/s, 50mm/s

SpO2 Setting

Pulse Volume	5
Sensitivity	Medium
Waveform Speed	25mm/s
PR	Off
Waveform Mode	Line

NIBP Setting

Unit	mmHg
Mode	Auto
Period	10 minutes

Temp Setting

Unit	°C
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Alarm Limits Setting

Parameters	Adult	Pediatric	Neonate	Unit
HR High Alarm Limit	120	160	200	bpm
HR Low Alarm Limit	50	75	100	bpm
Resp High Alarm Limit	30	30	100	brpm
Resp Low Alarm Limit	8	8	30	brpm
SpO2 High Alarm Limit	100	100	95	%
SpO2 Low Alarm Limit	90	90	80	%
PR High Alarm Limit	20	160	200	bpm
PR Low Alarm Limit	50	75	100	bpm
Sys High Alarm Limit	160	120	90	mmHg
Sys Low Alarm Limit	90	70	40	mmHg
Mean High Alarm Limit	110	90	70	mmHg
Mean Low Alarm Limit	60	50	25	mmHg
Dia High Alarm Limit	90	70	60	mmHg
Dia Low Alarm Limit	50	40	20	mmHg
Temp High Alarm Limit	39.0	39.0	39.0	°C
Temp Low Alarm Limit	36.0	36.0	36.0	°C

Parameters	Horse	Dog	Cat	Unit
HR High Alarm Limit	50	160	200	bpm

HR Low Alarm Limit	30	70	90	bpm
Resp High Alarm Limit	35	40	40	brpm
Resp Low Alarm Limit	5	8	8	brpm
SpO2 High Alarm Limit	100	100	95	%
SpO2 Low Alarm Limit	90	90	80	%
PR High Alarm Limit	50	160	200	bpm
PR Low Alarm Limit	30	70	90	bpm
Sys High Alarm Limit	130	180	200	mmHg
Sys Low Alarm Limit	80	70	90	mmHg
Mean High Alarm Limit	90	90	105	mmHg
Mean Low Alarm Limit	60	35	40	mmHg
Dia High Alarm Limit	70	125	110	mmHg
Dia Low Alarm Limit	20	60	60	mmHg
Temp High Alarm Limit	38.6	39.2	39.2	°C
Temp Low Alarm Limit	37.5	38.1	38.1	°C