Standard configuration :

3/5/6 lead ECG, HR, Resp, SpO2, PI, RR(from pleth), NIBP, Temp, Rechargeable Li-ion battery (2.5Ah).

Option:

Touch Screen, WIfi Module, Thermal Printer, Rolling stand, Wall mount, nurse call / defibrillation sync. / analog output, VGA output, Rechargeable Li-ion battery (5Ah). M12 only: 2-IBP, Mainstream/Microflow EtCO2,.







Guangdong Biolight Meditech Co.,Ltd.

Add: NO.2 Innovation First Road, Technical Innovation Coast, Hi-tech Zone, Zhuhai, P.R. China. Tel: +86-756-3399935 Fax: +86-756-3399911 E-Mail: overseas@blt.com.cn Postcode: 519085 www.blt.com.cn

*Specifications subject to change without prior notice. S10/S12-1911-eng-V1; Date: Nov. 2019



Compact Patient Monitor

M series patient monitor is based on Biolight's 27 years experience in the design and manufacture of world-class and innovative medical devices, inspired by the needs of the hospital. Concise and ergonomic product design with new software architecture and cutting-edge technology, M series monitor changes the way the medical staff work and meets the clinical demands.



Meticulous Design Based On The User

Ergonomic appearance is convenient for the users to operate and observe. Portable design with concealed handle High efficient capacitive touch screen with HD visual experience Operate with gestures, esay and simple Integrated full front panel without gaps, easy to clean



Display layout can be changed with simple swipe gestures



Fanless design reduces the risk of cross-contamination

Humanized Accessory Storage

Equipped with the accessory box, the medical staff will be more convenient to store and take out the accessories.

Various Mounting Solutions

Wide range of mounting solutions fit for various clinical needs By pulling the release bolt, our monitor can be quickly removed from the wall mount or trolley for transport.







Adjust brightness automatically based on ambient light



Battery life up to 8 hours







EWS (Early Warning Scoring)

Biolight's EWS in M series monitor is a physiologic scoring system for patient assessment- respiratory rate, heart rate, systolic blood pressure, level-of-consciousness, body temperature, etc. EWS can detect changes in a patient's vital signs, thereby, the rapid response teams can quickly notice and the early intervention can prevent critical events before they happen.





GCS(Glasgow Coma Scale)

GCS is a neurological scale that aims to give a reliable and objective way of recording the state of a person's consciousness for initial as well as subsequent assessment.





Respiration Rate (from the Pleth)

Pulse oximetry is the most commonly used continuous noninvasive measurement. Now with our innovative algorithm, Biolight's SPO2 technology can provide additional Respiration Rate. It can facilitate early recognition of deteriorating patient conditions leading to fewer rescue interventions. It also can reduce the consumption of disposable accessories, save valuable time for medical staff.



PPV (Pulse Pressure Variation)

PPV is a reflection of cardiopulmonary interactions. As a patient breathes, both spontaneously and with mechanical ventilation, the cardiac output varies. The more the cardiac output varies with respirations, the more likely that patient is to respond to a fluid bolus with an increase in cardiac output. Using this simple principle, clinicians can take advantage of the common arterial line tracing to assess a patient's volume responsiveness.



M10 M12

Patient Monitor

Size and Weight

Size Weight 198mm X 320mm X 262mm 193mm X 288mm X 236mm < 4kg < 3kg ----

Power

 Standard According to IEC 60601-1 and IEC 60601-1-2

 Input voltage
 AC (100-240) V(±10%)

 Frequency
 50Hz/60Hz

 Input power
 100VA

M12.

M10:

M12:

M10:

Display

 Type
 Color TFT LCD

 Size(diagonal)
 12.1" / 10.4" (M12 / M10)

 Resolution
 M12: 1280×800 pixels

 M10: 1024×600 pixels

Recorder(Option)

TypeThermal dot array (BTR50S)Paper width50 mm ±1mmRecording speed12.5 mm/s, 25 mm/s, 50 mm/sRecording waveformMaximum 3 tracks

Battery

TypeRechargeable Li-ion battery 11.1V 2.5Ah / 5.0AhOperating time>240 / 480 minutes (2.5Ah / 5.0Ah)(1 new and fully charged battery at 25°C temperature, connectingSpO2 sensor & NIBP work on AUTO mode for 30 minutes interval)Charge time<8 / 12 hours(2.5Ah / 5.0Ah)</td>

Data Storage

Alarm event3000 groups and associated waveformTrend1800h, minimum resolution is 10min
180h, minimum resolution is 11min
6h, minimum resolution is 5sARR event3000 groups and associated waveformNIBP2400 groupsHolographic waveform72 hours

Interfacing & I/O devices

Shortcut Keys NIBP Start/Stop, alarm reset, alarm pause, Freeze Control Knob 1 Keyboard & Mouse Support **Barcode Scanner** Support 1D barcode (USB connector) Wired network 1 standard RJ45 interfaces Wifi (option) Protocol: IEEE802.11a/b/g/n Wifi frequency Dual Band: 2.4G/5G USB socket 2 sockets Video output 1 VGA (option) Multifunctional port nurse call / defibrillation sync. / analog output



LUG						
Lead	3 lead: I, II, III 5 lead: I, II, III, aVR, aV	L. aVF. Vx				
	6-lead: I, II, III, aVR, aV	L, aVF, VA				
	Auto: identify leads auto	omatically				
Lead standard	AHA. IEC					
Gain	Auto, 2.5 mm/Mv (×0.25	ō), 5 mm/mV (×0.5),				
	10 mm/mV (×1), 20 mm	//mV (×2), 40 mm/mV (×4)				
CMRR	Monitor / Operation mod	de ≥ 110 dB				
	Diagnostic mode ≥ 100	dB				
Bandwidth (-3dB)	Monitor mode: 0.5 Hz to	0 40 Hz				
	Operation mode: 1 Hz to	0 25Hz				
	Diagnostic mode: 0.05F	Iz∼150Hz				
	ST mode: 0.05Hz~40H	Z				
Input impedance	$\geq 5.0 \text{ M}\Omega$					
Input signal range	-10.0mv~+10.0mv					
Electrode offset potent	e offset potential ± 500 MV d.c.					
System noise	\leq 30 µVpp (RTI)	over to boooling in 100				
Recovery time after de	6.25mm/a, 12.5mm/a, 1	over to baseline in TUS				
Sweep speed	0.201111/5, 12.01111/5, 2	25 mm/s, 50mm/s.				
Moosuromont range	$2.0 \text{ m}/(10 \pm 2.0 \text{ m})/$					
Accuracy	-2.0 mV to $+2.0$ mV $+0.8$ mV/ $+0.8$	$0.2 \text{ mV} \text{ or } \pm 10\%$				
Accuracy	(whichever is greater)					
Resolution						
Heart Rate	0.0 1117					
Measurement range	Adult	10 bpm to 300 bpm				
	Pediatric & Neonatal	10 bpm to 350 bpm				
Resolution	1 bpm					
Accuracy	±1% or ±1 bpm, whiche	ver is greater				
Arrhythmia analysis	Arrhythmia analysis					
27 Kinds	Asystole, Vent Fib/Tach	, V-Tach, Vent Brady,				
Extreme Tachy,Extreme Brady,R on T,Tachy,Brady,Nonsustained V-Tach,						
/ent Rhythm, PNC, PNP, Pause, Pauses/min High, Run PVCs, Couplet,						
Bigeminy, Trigeminy, Frequent PVCs, PVC, Missed Beat, A-Fib,						
A-Fib End, ECG Noise, Irregular Rhythm, Irregular RhythmEnd.						
Respiration						
Lead	Selected from: I (RA-L	A) or II (RA-LL)				
Measurement range	0 rpm to 150 rpm					
Resolution	1 rpm					
Accuracy	±2 rpm or ±2% , whiche	ver is the greater				
Delay of apnea alarm	Adjustable delay time: 1	0s ~ 60s				
NIBP						
NA						

 Measurement way
 Automatic oscillometry

 Measurement mode
 Manual , Auto, STAT, Sequence

 Intervals for Auto measurement: 1/2/2.5/3/5/10/15/20/30min, 1/1.5/2/3/4/8h

 STAT mode cycle time 5 minutes.

 Sequence mode
 Up to 5 group, and each group individually sets the interval and number of periodic measurement.

Systolic range	Adult	30 to 270 mmHg	PPV	
	Pediatric	30 to 235 mmHg	Measurement range	0~50%
	Neonatal	30 to 135 mmHg	Resolution	1.00%
Diastolic range	Adult	10 to 220 mmHg	PR	
	Pediatric	10 to 220 mmHg	Measurement range	30 bpm to 300 bpm
	Neonatal	10 to 110 mmHg	Resolution	1bpm
Mean range	Adult	20 to 235 mmHg	Accuracy	±1% or ±1bpm whichever is greater
	Pediatric	20 to 235 mmHg		
	Neonatal	20 to 125 mmHg	MicroFlow CO2 (optio	n for M12 only) (Masimo ISA Capno)
Pressure accuracy	Static:	±3 mmHg (±0.4kPa)	Measurement range	0% to 25% (0 mmHg to 190 mmHg)
	Clinic:	mean error ±5 mmHg	Unit	0.1% or 1mmHg
	Standard	deviation: ≤8 mmHg	Unit	%, mmHg, kPa
PR range	40 bpm to	240 bpm	Accuracy	± (0.43% + 8% of reading)
PR accuracy	\pm 3bpm or	r \pm 3%, whichever is greater	Preheating time	<10s (Report concentration and
Measurement time	20s to 45	is (typical value)		achieve highest accuracy)
Software overpressure	e protection	Adult (297±3) mmHg	Rise time	<3s (including delay time and rise time)
		Pediatric (252±3) mmHg	Sample Flow Rate	50±10mL/min
		Neonatal (147±3) mmHg	awRR range	0 rpm to 150 rpm
BLT SpO2			awRR accuracy	±1 rpm
Measurement range	0% ~ 100%			
Accuracy(clinical)	70% ~ 100% \leq 3% (SpO2 probe included)		Mainstream CO2 (opt	ion for M12 only)(Masimo IRMA)
	0% ~ 69%	unspecified	Measurement range	0% to 25% (0 mmHg to 190 mmHg)
PR			Resolution	0.1% or 1mmHg
Measurement range	25 bpm to	300 bpm	Preheating time	<10s
Resolution	1bpm		Rise time	<90ms
Accuracy	± 3bpm		Unit	%, mmHg, kPa
PI			Accuracy	$\pm (0.43\% + 8\% \text{ of reading})$
Measurement range	0.05~20.0	0%	awRR range	0 rpm to 150 rpm
Resolution	0.01%		awRR accuracy	±1 rpm
Accuracy	±0.1% or ±	±10% of reading, whichever is greater		
RESP (from pleth)			MicroFlow CO2 (optio	n for M12 only) (BLT Capno S)
Measurement range	0 rpm ~90	rpm	Measurement range	0% to 19.7% (0 mmHg to 150 mmHg)
Resolution	1 rpm		Unit	0.1% or 1mmHg
Accuracy	± 2rpm		Unit	%, mmHg, kPa
			Accuracy	$\pm (0.43\% + 8\% \text{ of reading})$
Temperature			Preheating time	97% of the design accuracy can be reached in 45s
Parameter	T1,T2,TD			the design accuracy can be fully reached in 2 min
Probe	YSI400 series probe (2252 Ω @25 ℃)		Rise time	<3s (including delay time and rise time)
Measurement range	0.0℃ to 50.0℃(32°F to 122°F)		Sample Flow Rate	50±10mL/min
Accuracy ±0.1°C or ±1°F (exclusive of probe)		awRR range	3 rpm to 150 rpm	
Resolution	Resolution 0.1°C or 1°F		awRR accuracy	±1 rpm
Unit	°C or °F		Mainstream CO2 (opt	ion for M12 only)(BLT Capno M)
			Measurement range	0% to 19.7% (0 mmHg to 150 mmHg)
2-IBP (option for M12	only)		Resolution	0.1% or 1mmHa

 Sensitivity of transducer 5uV/V/ mmHg, ±2%

 Impedance of transducer 300Ω to 3000Ω

 Measurement range
 -50 mmHg to +360 mmHg

 Measurement accuracy±2 mmHg or ±2% of the reading, whichever is the greater (exclusive of transducer)

 Resolution
 1 mmHg

 Unit
 mmHg, kPa, cmH2O

 Transducer sites
 ART/CVP/ICP/PA/Ao/UAP/BAP/FAP//LAP/RAP/UVP

 LV/PAWP, additionally, P1 & P2 are arbitrary sites

Measurement range	0% to 19.7% (0 mmHg to 150 mmHg)	
Resolution	0.1% or 1mmHg	
Preheating time	97% of the design accuracy can be reached in 8s	
	the design accuracy can be fully reached in 20s	
Rise time	About 70ms	
Unit	%, mmHg, kPa	
Accuracy	± (0.43% + 8% of reading)	
awRR range	3 rpm to 150 rpm	
awRR accuracy	±1 rpm	

Standard configuration:

3/5/6 lead ECG, HR, Resp, SpO2, PI, RR(from pleth), NIBP, Temp, Rechargeable Li-ion battery (2.5Ah). Option:

Touch Screen, Thermal Printer, Rolling stand, Wall mount, nurse call / defibrillation sync. / analog output, VGA output, Rechargeable Li-ion battery (5Ah). For M12 only: 2-IBP, Mainstream/Microflow EtCO2.