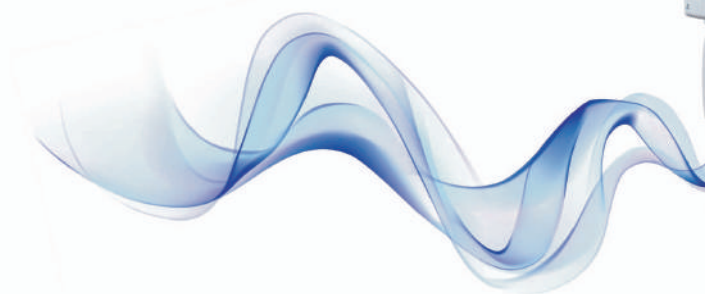




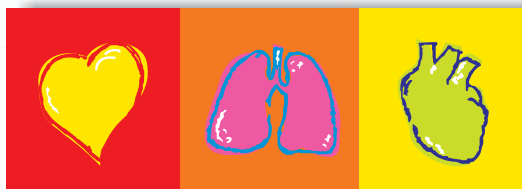
TRUSCOPE® ultra Q7 / Q5/ Q3

15" / 12.1" / 10.4" Modular Patient Monitors

NEW



CE 0123



SCHILLER
The Art of Diagnostics

Features

- Q7: 15" / Q5: 12.1" / Q3: 10.4" touchscreen colour TFT LCD display
- Upto 7 lead ECG display (12 lead display optional)
- Total 10 waveform display simultaneously
- 9 different screen configurations
- ST & Arrhythmia analysis
- Drug dose & hemodynamic, renal profile (nephridium), & oxygenation calculations
- OXY CRG software
- External video (VGA) output
- 168 hours graphical and tabular trends
- SD card facility for data storage
- Non - Volatile memory
- Central Monitoring System : Wired
- Certification :  0123



TRUSCOPE® ultra - Q7

15" Modular Patient Monitor

Optional

- Central Monitoring System : Wi-fi
- Recorder

Optional modular upgrades

- ETCO₂ (Mainstream / Sidestream / Microstream)
- Multigas monitoring
- Cardiac Output - Thermodilution
- 12 lead ECG
- Dual IBP
- Nellcor or Masimo SpO₂
- Wi-fi module for wireless data transmission

Preconfigured configuration available

- Five parameters: ECG, RR, SpO₂ (Digital), 2Temp, NIBP
- Optional: 2IBP, SpO₂ (Nellcor / Masimo)



TRUSCOPE® ultra - Q5

12.1" Modular Patient Monitor



TRUSCOPE® ultra - Q3

10.4" Modular Patient Monitor

Advanced Modular Monitoring

Nellcor SpO₂



SpO₂ (Nellcor) Module

Measurement range : 0~100%

Resolution : 1%

Accuracy :

- At 70~100%, $\pm 2\%$ (Adult / Pediatric)

- At 70~100%, $\pm 3\%$ (Neonate)

- At 70~100%, $\pm 2\%$ (Low Perfusion)

- At 0~69%, unspecified

Pulse Rate

- Measurement range : 20~300 bpm

- Resolution : 1 bpm

Accuracy :

- 20 to 250 bpm : ± 3 bpm

- 251 to 300 bpm : unspecified

Cardiac Output - Thermodilution



Invasive Cardiac Output Module

Measurement range:

- T_i : 1 ~ 27 (°C)

- T_b : 23 ~ 43 (°C)

- C.O : 0.1 ~ 20 (L/min)

Accuracy:

T_i : ± 0.1 (°C)

T_b : ± 0.1 (°C)

- C.O : $\pm 2\%$

AG



Multigas (Sidestream) (ISA) Module

Measurement method : Infrared spectrum

Measurement mode : Sidestream

Measurement parameters : CO₂, N₂O, O₂, agent
(HAL, ISO, ENF, SEV, DES)

Resolution : 1%

Unit : %, mmHg

Measurement and alarm range of AG :

Gas	Range	Accuracy
CO ₂	0-10%	$\pm (0.2\%_{ABS} + 2\%_{REL})$
O ₂	10-100%	$\pm (2\%_{ABS} + 2\%_{REL})$
N ₂ O	0-100%	$\pm (2\%_{ABS} + 8\%_{REL})$
HAL, ISO, ENF	0-5%	$\pm (0.15\%_{ABS} + 10\%_{REL})$
SEV	0-8%	$\pm (0.15\%_{ABS} + 10\%_{REL})$
DES	0-18%	$\pm (0.15\%_{ABS} + 5\%_{REL})$

Respiration rate range : 0~150 rpm

Sample flow rate : 50 ml/min $\pm$ 10 ml/min

Masimo SpO₂



SpO₂ (Masimo) Module

Measurement range : 0~100%

Resolution : 1%

Accuracy :

- At 70~100%, $\pm 2\%$ (adult, pediatric, non-motion conditions)

- At 70~100%, $\pm 3\%$ (neonate, non-motion conditions)

- At 70~100%, $\pm 2\%$ (motion conditions)

- At 0~69%, unspecified

Pulse Rate

- Measurement range : 25~240 bpm

- Accuracy : ± 3 bpm (non-motion conditions)

± 5 bpm (motion conditions)

- Resolution : 1 bpm

Dual IBP



IBP Module

Measurement range : -50~350 mmHg

Resolution : 1 mmHg

Unit : mmHg, kPa, cmH₂O

Accuracy : Static: ± 1 mmHg or $\pm 2\%$, whichever is greater (exclusive of transducer)
 ± 4 mmHg or $\pm 4\%$, whichever is greater (inclusive of transducer)

Dynamic : ± 4 mmHg or 4%, whichever is greater

Sensitivity of transducer : 5 μ V/V/mmHg, $\pm 2\%$

Impedance of transducer : 300~3000 Ω

Kinds of measurements :

- Arterial Pressure (ART)
- Pulmonary Artery Pressure (PA)
- Left Atrium Pressure (LAP)
- Right Atrium Pressure (RAP)
- Central Venous Pressure (CVP)
- Intracranial Pressure (ICP)
- P1/P2

Alarm range :

- ART : 0~+350 mmHg

- PA : -10~+120 mmHg

- CVP/RAP/LAP/ICP : -10~+40 mmHg

- P1/P2 : -50 mmHg to +360 mmHg

ETCO₂



ETCO₂ (Mainstream) Module

Measurement method : Infrared spectrum

Measurement range : 0 ~ 15%

Resolution : 1%

Unit : %, mmHg, kPa

Accuracy : $\pm (0.3\%_{ABS} + 4\%_{REL})$

Warm up time : < 10 seconds

Rise time (10 l/m) : ≤ 90 ms

awRR measurement range : 0 ~ 150 rpm

awRR measurement accuracy : ± 1 rpm

Total system response time : < 1 second

ETCO₂ (Sidestream) Module

Measurement range : 0 ~ 15%

Resolution : 0.1%

Unit : %, mmHg, kPa

Accuracy : $\pm (0.3$ kPa + 4% of reading)

Warm up time : < 10 seconds

Rise time : ≤ 200 ms

awRR measurement range : 0 ~ 150 rpm

awRR measurement accuracy : ± 1 rpm

Sample flow rate : 50 ml/min $\pm$ 10 ml/min

Total system response time : < 3 secs

ETCO₂ (Microstream) Module

Measurement method : Infrared spectrum

Measurement range : 0-19.7% (0-150 mmHg)

Resolution : 0.1% or 1 mmHg

Unit : %, mmHg, kPa

Accuracy : 0 - 40 mmHg, ± 2 mmHg

41 - 70 mmHg, $\pm 5\%$ of reading

71 - 100 mmHg, $\pm 8\%$ of reading

101 - 150 mmHg, $\pm 10\%$ of reading

(760 mmHg, temperature is 25° C)

(when RR > 80 rpm, all the range is $\pm 12\%$ of reading)

Warm up time : Less than 20 secs to 2 mins

Rise time : < 3 secs

awRR measurement range : 2 ~ 150 rpm

awRR measurement accuracy : ± 1 rpm

Sample flow rate : 50 ml/min $\pm$ 10 ml/min

Total system response time : < 3 secs

Technical Data

General

Size & Weight

- Size : **Q7**: 335 mm X 366 mm X 172 mm
Q5 / Q3: 318 mm X 264 mm X 152 mm
- Weight : **Q7**: < 6 kg
Q5 / Q3: < 4.5 kg
- Standard module slot : **Q7**: 3
Q5 / Q3: 2

- Power supply
- Power voltage : AC 100-240V 50/60 Hz
- Input current : **Q7**: 1.7 A to 0.8 A
Q5 / Q3: 1.1 A to 0.5 A

- Safety class : Category I

Display

- **Q7** : 15" / **Q5**: 12.1" / **Q3**: 10.4" Color TFT - LCD
- Resolution : **Q7**: 768 X 1024 pixels
Q5 / Q3: 800 x 600 pixels

Battery

- Type : Rechargeable lithium-ion battery
- **Q5/Q3** : Operating time under the normal use and full charge 210 minutes
- **Q7**: Operating time under the normal use and full charge 120 minutes (2 batteries for 240 minutes)

Recorder (Optional)

- Method : Thermal dot array
- Paper width : 50 mm (1.97 in)
- Paper speed : 12.5 / 25 / 50 (mm/sec)
- Traces : Maximum 3 tracks

Alarm

- Level : Low, medium and high
- Indication : Auditory and visual
- Patient physiological alarm light color : Yellow & Red
- Equipment technical alarm light color : Blue
- Supports pitch tone and multi-level volume
- Supports custom arrhythmia tone

Input device

- Touchscreen
- Knob (only in **Q5 / Q3**)
- Keyboard input: Support

System output & Extensible Interfaces

- Ethernet network : 1 Standard RJ45 socket
- Defibrillation output : 1RJ11socket
- Nurse call : 1BNC socket
- Video output : 1 VGA port
- SD memory card : 2GB
- Analog output (ECG or IBP) : (Option)

Trend and Reviewing

- Trend data : 168 hours
- NIBP measurement reviewing : 1000 groups
- ARR event : 128 groups of ARR event and the associate waveform
- Alarm events : 128 groups of parameter alarm events and associated parameter

Environment

- Operating temperature : 0°~40° C
- Storage temperature : -20° to +55° C
- Operating humidity : 15% to 85% (non condensing)
- Storage humidity : 10% to 93% (non condensing)
- Operating atmospheric pressure : 860 hPa to 1060 hPa
- Storage atmospheric pressure : 500 hPa to 1060 hPa

Safety

- IEC60601-1 Approved, CE marking according to MDD93/42/EEC

ECG

Lead mode : 3, 5, 12 leads ECG input(Optional)

Lead selection : I, II, III

I, II, III, aVR, aVL, aVF, V-

I, II, III, aVR, aVL, aVF, V1~V6 (Option)

Gain : 2.5 mm/mV, 5 mm/mV, 10 mm/mV, 20 mm/mV, 40 mm/mV, Auto

CMRR : Monitor mode 105 dB

Surgery mode 105 dB

Diagnostic mode 90 dB

Frequency response (-3dB) : Monitor mode 0.5~ 40 Hz
Surgery mode 1~25 Hz
Diagnostic mode 0.05~150 Hz

Input impedance : 5.0 M Ω
ECG signal range : $\pm$ 10.0 mV
Patient leakage current : <10 uA
Standardizing signal : 1mV $\pm$ 5%
Baseline recovery: <5 sec after defibrillation (Mon or Surg mode)

Indication of electrode separation : Every electrode (exclusive RL)

Protection : Breakdown Voltage 4000 VAC 50/60 Hz; defibrillator proof

Sweep speed :12.5 mm/s, 25 mm/s, 50 mm/s

Heart Rate

Range : Adult 10~300 bpm
Pediatric and Neonate 10~350 bpm

Resolution : 1 bpm

Accuracy : $\pm$ 1% or $\pm$ 1 bpm

ST segment

Measurement range : -2.0 mV~2.0 mV
Accuracy : -0.8 mV~0.8 mV, $\pm$ 0.02 mV or $\pm$ 10% whichever is greater
Over $\pm$ 0.8 mV unspecified
Resolution : 0.01 mV

Respiration

Method : Thoracic impedance
Lead selected from : I(RA-LA) or II (RA-LL); Default : 1
Gain : x0.25, x1, x2, x4
Bandwidth : 0.25 Hz to 2.0 Hz (-3db)
Sweep Speed : 6.25 mm/s, 12.5 mm/s, 25 mm/s
Measurement range : 0~150 rpm
Resolution : 1 rpm
Accuracy : $\pm$ 2 rpm or 2% whichever is greater
Delay Apnea Alarm : 10s, 15s, 25s, 30s, 35s, 40s, 45s, 50s, 55s, 60s

NIBP

Measurement method : Automatic Oscillometry
Range of measurement :
Adult : SYS 30~270 mmHg
DIA 10~220 mmHg
MAP 20~235 mmHg
Child : SYS 30~235 mmHg
DIA 10~220 mmHg
MAP 20~225 mmHg
Neonate : SYS 30~135 mmHg
DIA 10~100 mmHg
MAP 20~125 mmHg
Cuff pressure range : 0~300 mmHg
Resolution : 1 mmHg
Pressure accuracy : Static : $\pm$ 2% or $\pm$ 3 mmHg
Clinical : $\pm$ 5 mmHg (Average error)
Standard deviation: 8 mmHg

Unit : mmHg, kPa

Measurement mode: Manual, Auto, STAT

Intervals for AUTO measurement time :

1, 2, 3, 4, 5, 10, 15, 30, 60, 90 minutes; 2, 4, 8 12 hours

STAT mode cycle time: 5 minutes, at 5 seconds interval

Overpressure protection : Hardware and software double protection

Pulse rate range : 40~240 bpm

Digital SpO₂

Measurement range : 0~100%
Resolution : 1%
Accuracy : At 70~100%, $\pm$ 2%
At 0~69%, unspecified

Pulse rate

- Measurement range : 25 bpm to 255 bpm
- Resolution : 1 bpm
- Accuracy : $\pm$ 1% or $\pm$ 1 bpm

Nellcor / Masimo SpO₂

Measurement range : 0~100%
Resolution : 1%
Accuracy : 70% to 100 % ; $\pm$ 2% (adult)
70% to 100 % ; $\pm$ 3% (neonate)
70% to 100 % ; $\pm$ 2% (low perfusion)
0% to 69 % , unspecified

Pulse rate

- Measurement range : 25~240 bpm
- Resolution : 1 bpm
- Accuracy : $\pm$ 3 bpm Non motion conditions
 $\pm$ 5 bpm motion conditions

Temperature

Channel : 2
Measurement range : 0.0° C~50.0° C (32° F~122° F)
Accuracy : $\pm$ 0.1° C or $\pm$ 1° F
Resolution : 0.1° C or 1° F
Unit : Celsius (° C), Fahrenheit (° F)

Optional modular upgrades

ETCO₂ (Mainstream / Sidestream / Microstream)
Multigas monitoring
Cardiac Output - Thermodilution
12 lead ECG
Dual IBP (Upgradable to 6 measurement channel)
Nellcor or Masimo SpO₂
Wi-fi module for wireless data transmission

Certification

 0123

Standard accessories

- Power cord - 1 no.
- ECG cable (5 lead) - 1 no.
- Disposable ECG electrodes - 10 nos.
- Reusable SpO₂ sensor (adult) with extension cable - 1 no. each
- Skin temperature probe - 1 no.
- Rectal temperature probe - 1 no.
- NIBP cuff (Adult, Pediatric & Neonate) - 1 no. each
- NIBP extension cable - 1 no.
- SD memory card (2 GB) - 1 no.
- Earth cable - 1 no.
- User manual - 1 no.
- Warranty card - 1 no.

Accessories shown are not part of standard configuration* All registered trademarks acknowledged.

Technical data are subject to change without notice

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SCHILLER

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