

# DYNASCOPE

DS-1700 System



FUKUDA DENSHI reserves the right to change specifications without notice.



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# DYNASCOPE

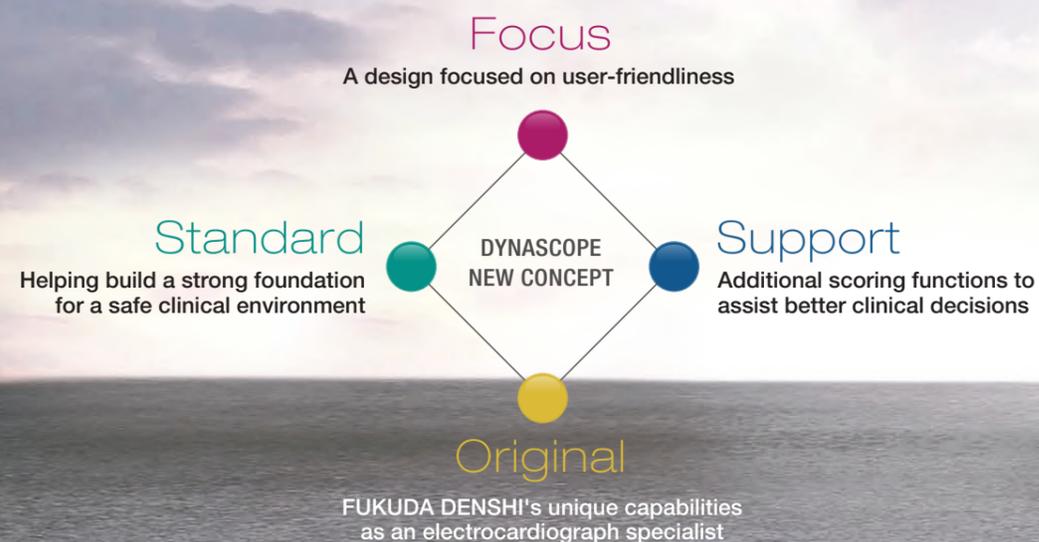
Adaptive Monitoring Solutions,  
Expandable technology for now and the future

Rapid, accurate, advanced support for clinical environments using a wide range of functions.

The DS-1700 system central monitor can be employed in general hospital wards, including those that mix wired and wireless systems. This system can be used to simultaneously monitor up to 32 beds.



DS-1700 System

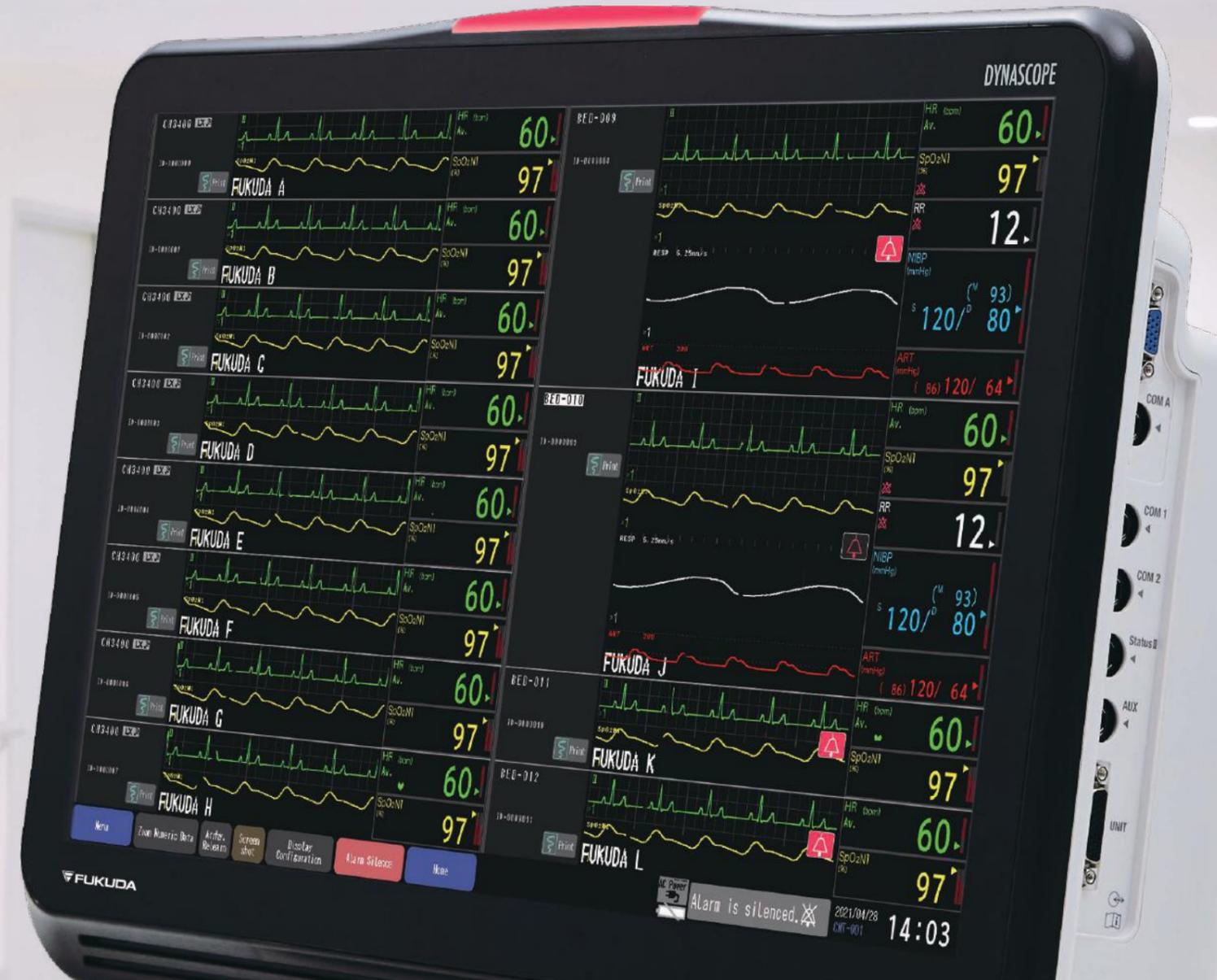


# Focus

A design focused on user-friendliness

A universal font is used to display measured values.

In the event of sudden changes in patient conditions, it is necessary to check the central monitor display and respond rapidly. Because our system uses an easy-to-see, easy-to-read universal font that offers exceptional visibility of numbers in particular, anyone can easily confirm the measured values.



## Familiar flat design

Central monitors used in busy clinical environments require both visibility that enables the instant and accurate understanding of the measured values, etc. during alarms and operability that enables rapid entry. Our system's display utilizes the same kind of *flat design* that is also used for smartphones and other mobile devices. The simple layout of the display design achieves both high visibility and stress-free operability, thereby supporting safe, accurate monitoring in ICUs and hospital wards.



## Capacitive touch panel

Our system uses a touch panel screen that is clear and reduces glare. The screen specifically consists of an LCD surface with a sheet of touch-detecting film attached to it. The screen therefore achieves the clearer display of waveforms and numerical information while also being highly responsive to touch operations.



# Support

## Additional scoring functions to assist better clinical decisions

### Early warning score (EWS) included

Rapid response systems (RRS) are currently being introduced by many medical institutions to enable specialized teams to promptly intervene and provide medical treatment based on prescribed standards. Meanwhile, an early warning score (EWS) is based on the respiratory rate, body temperature, blood pressure, oxygen saturation, and level of consciousness, which are used as standards to trigger the RRS, and such a score can be used to provide patient care based on any set standards.

### Score mode equipped as standard

**NEWS 2 (National Early Warning Score)**  
This scoring system was released by the NHS (National Health Service) in 2017.

### Original score modes can also be set

The score can be set in combination with any other parameters according to hospital operations.

EWS1	3	2	1	0	1	2	3	Score Mode
NIBP-S (rate)	~	~	~	~	~	~	~	IV
HR/PR (bpm)	~	~	~	~	~	~	~	IV
TEMP (°C)	~	~	~	~	~	~	~	IV
SpO2 (%)	~	~	~	~	~	~	~	IV
RR (bpm)	~	~	~	~	~	~	~	IV
Supp. O2	~	~	~	~	~	~	~	IV
LOC	~	~	~	~	~	~	~	IV

## FUKUDA DENSHI's unique capabilities as an electrocardiograph specialist

### Algorithm for analyzing 28 types of arrhythmias included

All of our DS-1700 systems are equipped with Fukuda Denshi's signature arrhythmia analysis algorithm as standard which may find arrhythmias before further changes occur.

Our DS-1700 systems can analyze 28 types of arrhythmias— currently the largest number among all central monitors used in clinical environments of Japan\* — along with issuing their alarms.

\*Current as of July of 2021 (based on our company's research)

Asystole	VF	VT	Slow VT	Tachy	Brady	Run	Bigeminy	Trigeminy	Pause
Couplet	Frequent	Ireg RR	Prolung RR	Not Capt	Not Pacing	Vent Rhtm	SVT	AFib	Multiform
Ext Tachy	Ext Brady	R on T	Triplet	S Frequent	S Couplet	VPC	SVPC		

### QT/QTc measurement

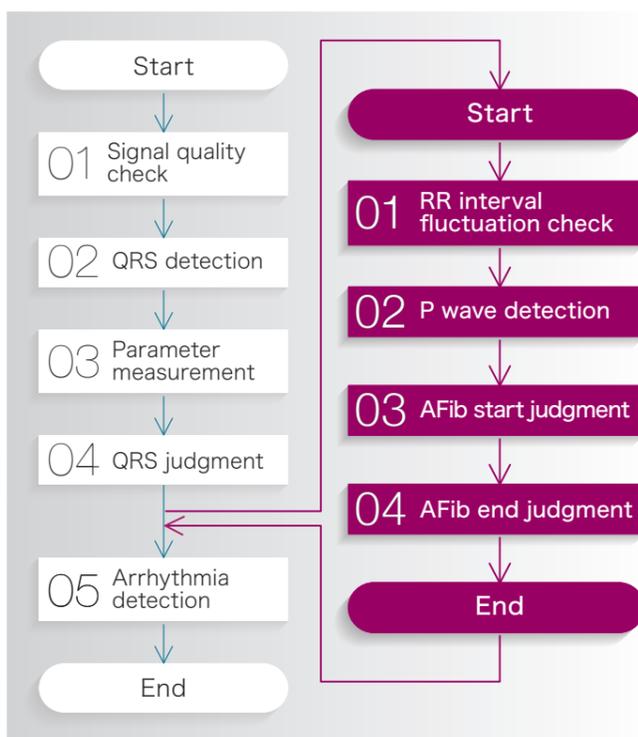
With its comprehensive set of waveform functions, our system can be used to achieve rapid and continuous QT/QTc monitoring.

This system can be easily used to quickly confirm the presence of long QT segments, which have been known to indicate cases with patients experiencing serious health issues or sometimes even sudden death. With the capability to quickly identify these measurements, patients can receive immediate preventative care to avoid more serious changes in their condition.

### FUKUDA DENSHI's original AF analysis flow included

In addition to our algorithm for analyzing 28 types of arrhythmias, our system includes our own original analysis flow of atrial fibrillation (AFib). The flowchart to the right portrays the flow of our analysis.

Our unique analysis technology has been cultivated from our years of experience holding a large share of the Japanese Holter ECG market. This insight has been applied to the development of our technology and also included with our central monitor.



## Helping build a strong foundation for a safe clinical environment

21.5 full HD display

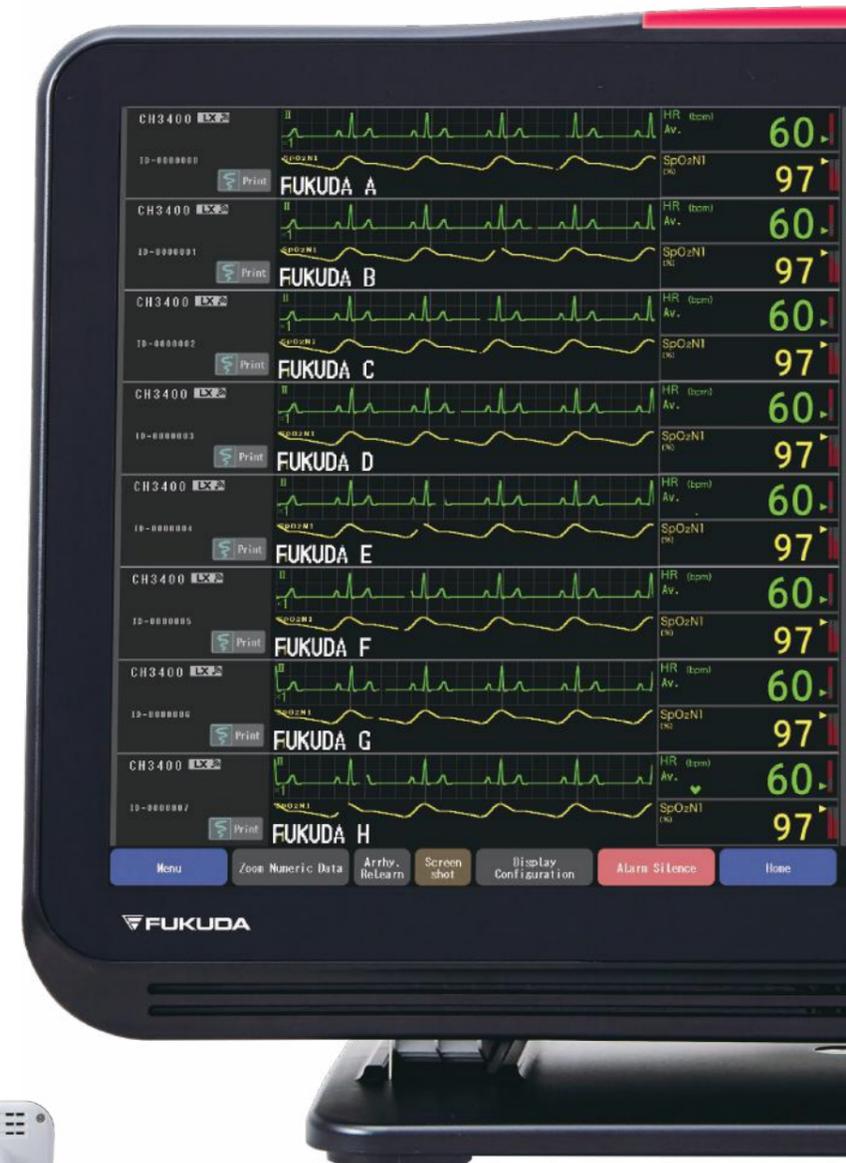
Built-in receivers for eight beds\*

Up to 32 beds simultaneously displayed

Full Disclosure up to 14 days (optional)

Diagnostic support functions available

60-minute battery



Battery model BTO-005

\*For details, see Composition of the System on p. 10.

## Specification

<b>Size</b>	535 (W) mm x 390 (H) mm x 170 (D) mm ±10 mm 21.1 (W) inch x 15.4 (H) inch x 6.7 (D) inch ±0.4 inch (not including the protrusion)
<b>Weight</b>	9 kg ±3 kg 19.8 lb ±6.6 lb (not including the optional accessories)

## Environmental Conditions

Operating Temperature	10°C to 40°C
Operating Humidity	30% to 85% (non-condensing)
Transport / Storage Temperature	-10°C to 60°C
Transport / Storage Humidity	10% to 95% (non-condensing)
Storage Atmospheric Pressure	80 kPa to 106 kPa

## Power Supply

Rated Voltage	100-240 V AC
Frequency	50/60 Hz
Power Consumption	100 VA and below

## Battery for Operating the Equipment

Operation Time	60 minutes and more (at 23°C)
Charging Time	2.5 hours (during standby), 5 hours (during normal operation)

## Performance

### Display

Display Element	Color LCD with Touch Panel
Size	21.5 inch wide
Resolution	1920 dot x 1080 dot (Full HD)
Waveform Trace	Stationary Trace
Touch Panel	Capacitive Touch Panel
Displayed Parameter	ECG, RESP, TEMP, SpO <sub>2</sub> /SpO <sub>2</sub> -2 (Arterial Oxygen Saturation), Pulse Rate, BP1-8, NIBP, CO <sub>2</sub> concentration, O <sub>2</sub> concentration, N <sub>2</sub> O concentration, AGENT, SvO <sub>2</sub> (Mixed Venous Oxygen Saturation), CCO (Continuous Cardiac Output), CCI (Continuous Cardiac Index), BT (Blood Temperature), SpCO (Carboxyhemoglobin Concentration), SpMet (Methemoglobin Concentration), SpHb (Total Hemoglobin Concentration), MVe (Expiratory Minute Volume), TVe (Expiratory Tidal Volume), TVi (Inspiratory Tidal Volume), PEAK (Peak Airway Pressure), PEEP (Peak End Expiratory Pressure), MEAN (Mean Airway Pressure), ScvO <sub>2</sub> (Central Venous Oxygen Saturation), rSO <sub>2</sub> (Regional oxygen saturation), BIS

Displayed Waveform	ECG, RESP, BP, SpO <sub>2</sub> /SpO <sub>2</sub> -2 (Arterial Oxygen Saturation), CO <sub>2</sub> concentration, O <sub>2</sub> concentration, AGENT (anesthetic gas concentration), AWP (Airway Pressure), AWF (Airway Flow), AWW (Airway Volume)
Sweep Speed	ECG, SpO <sub>2</sub> /SpO <sub>2</sub> -2 (Arterial Oxygen Saturation), IBP: 12.5, 25 mm/sec. RESP, CO <sub>2</sub> concentration, O <sub>2</sub> concentration, AGENT (anesthetic gas concentration), AWP (Airway Pressure), AWF (Airway Flow), AWW (Airway Volume): 6.25, 12.5, 25 mm/sec.

## Network

Network Configuration DS-LAN III Network, Wireless System

## Telemetry Reception

Number of Receiving Beds	Maximum of 8 beds By connecting wired bedside monitors and telemetry receivers by DS-LAN III network, maximum of 32 beds can be monitored.
Transmitter	LX-8100, LX-8300, HLX-801, Bedside Monitor (with HLX-801 or equivalent)
Antenna Connector	F Type

## Composition of the System

The following model types are available.

Model	Number of Telemetry Receiving Beds	Printer	Extended Display
DS-1700L	0	No	No
DS-1708	8	No	No
DS-1700LR	0	Yes	No
DS-1708R	8	Yes	No
DS-1700LE	0	No	Yes
DS-1708E	8	No	Yes
DS-1700LRE	0	Yes	Yes
DS-1708RE	8	Yes	Yes

Other equipment such as general-purpose display unit, mouse, keyboard can be also connected.  
Models sold vary by region. Please contact us or the distributors for details.

## Example of an Hospital Network

