D a t a   S h e e t

A r i a T e l e   T e l e m e t r y
T r a n s m i t t e r
96281

The Spacelabs Healthcare 96281 AriaTele[®] Telemetry Transmitter provides a range of choices for ambulatory patient monitoring, from basic ECG to multiparameter with a liquid crystal display (LCD). The color display allows a clinician to assess ECG and/or SpO_2 signal quality while at the patient's side.

The design is sleek and smooth for patient comfort, as well as water-resistant and durable.

Note:

> *Not all products are available in all locales. Check with your local Spacelabs Healthcare representative.*

Features

	96281-A ECG without Display	96281-B ECG with Display	96281-C ECG and SpO_2 with Display
Leads transmitted	II and V (narrowband) / 7 from 4 vectors (wideband)		7 from 4 vectors
Leads shown on display	N/A	I, II, III, and V	
Electrode configuration	individually replaceable DIN standard safety lead wires		
Lead fault indicator	yellow LED flashes for lead fault		
Pacemaker pulse display capability	detects pacemaker pulses of ±0.5 mV with pulse widths of 0.2 to 2 ms and ±1.0 mV at 0.1 ms pulse widths		
Pacemaker rejection	pulse period of width 0.1 msec, amplitude up to 700 mV (2 mV, 10 mV, 300 mV, and 700 mV tested), with an overshoot of less than or equal to 4 msec		
Remote record button	yes		
Dimensions (H × W × D)	132 × 75 × 22 mm (5.20 × 2.95 × 0.98 inches)	132 × 75 × 22 mm (5.20 × 2.95 × 0.98 inches)	132 × 75 × 22 mm (5.20 × 2.95 × 0.98 inches)
Weight	<200 g (7.055 oz.) without grouper, batteries, leads	<200 g (7.055 oz.) without grouper, batteries, leads	<200 g (7.055 oz.) without grouper, batteries, leads, SpO_2 cable
Display size (H × W)	N/A	35 × 47 mm	
Display type	N/A	color LCD	

	96281-A ECG without Display	96281-B ECG with Display	96281-C ECG and SpO$_2$ with Display
ECG display	N/A	heart rate, ECG waveform, lead indicator, pacemaker flag	
SpO$_2$ display	N/A	N/A	O$_2$ saturation, signal quality, pulse rate, pulse waveform
Water resistance	meets EN 60529 IPX7 (temporary immersion of 30 minutes at a depth of 1 meter)		
Output power	608 MHz (-05 model): <3 mW EIRP		
	1400 MHz (-09 model): <7 mW EIRP		
	433 MHz (-32 model): <1 mW ERP		
	442 MHz (-48 model): <1 mW ERP		N/A
System ECG Signal Range	±4 mV		
DC offset	up to ±300 mV		
Noise	≤50 μV peak-valley		
CMRR	>95 dB		
QRS detection	detects QRS complexes with durations of 40 to 120 ms and amplitudes of 0.5 to 5 mV		
Defibrillator protection	meets IEC 60601-2-27		
System Resolution	4 μV per LSB referred to input		
Input impedance	>10 MΩ differential at 10 Hz		
Gain accuracy	±5%		
Accuracy of signal reproduction	meets IEC 60601-2-27		
Signal bandwidth	0.05 to 40 Hz		
SpO$_2$ measurement accuracy	N/A		±2% (at 70 to 100%, Pediatric or Adult) ±3.25% (at 70 to 100%, Neonate)
Battery types	two AA/LR6 alkaline or two NiMH batteries		
Battery Life, typical alkaline batteries (hours)	>72		>72 for ECG; >24 for ECG and continuous SpO$_2$
Battery status indicators	yellow battery indicator LED flashes when the battery level is low		
RF signal shutdown	1.9 VDC ±0.1		
Radio Compliance FCC	608MHz (-05 model): 47CFR Part 95 FCCID: CM6-670-1187-608 1400MHz (-09 model): 47CFR Part 95 FCCID: CM6-670-1187-1400		
Radio Compliance IC	608MHz (-05 model): RSS210-2010 ICID: TAC 2434A-6701187608 1400MHz (-09 model): RSS210-2010 ICID: TAC 2434A-6701632		

	96281-A ECG without Display	96281-B ECG with Display	96281-C ECG and SpO$_2$ with Display
Radio Compliance EU	433MHz (-32 model): EN300 220-2 V2.4.1:2012 442MHz (-48 model): EN300 220-2 V2.4.1:2012		
Radio Compliance Bluetooth	FCC ID: CM6-WT12 ICID: TAC 2434A-WT12 EU: EN300 328 V2.2.2		

Options

Option Groups	Option Identifier	Description of Option	Availability
Transmitter	-A	ECG	-A
	-B	ECG + display	-B
	-C	ECG + display + SpO$_2$	-C
Bands	32	G band (433.0625 to 434.7875 MHz)	-A, -B, -C
	48	H band (442 to 446 MHz) *Note:* *Only available in the Netherlands.*	-A48N, -B48N
	05	Q band (608 to 614 MHz)	-A, -B, -C
	09	T band (1395 to 1400 MHz) and V band (1427 to 1431.5 MHz)	-A, -B, -C
Channels	N	narrowband (25 kHz bandwidth)	-A, -B
	W	wideband (50 kHz bandwidth)	-A, -B, -C
Leadwires	I	5 leadwires IEC	-A, -B, -C
	J	5 leadwires AHA/AAMI	-A, -B, -C

Relationship to Other Systems

The 96281 telemetry transmitter is directly related only to Spacelabs Healthcare monitoring systems. Data collected by the transmitter may be interfaced from the monitoring system to a hospital clinical information system.

Compatibility

All options of the 96281 telemetry transmitter are compatible with the 96280 Xhibit Telemetry Receiver and related Xhibit ™ Central Station. All options—except two—are compatible with the 90478 Digital Telemetry Modular Receivers* and related Ultraview SL ™ bedside and central monitors. The two exceptions are Options 32 G (wideband) and 48 H band. These two options are only compatible with the 96280 Xhibit Telemetry Receiver and cannot be used with the 90478 telemetry receiver.

For information that relates to the 96280 Xhibit Telemetry System, refer to the *Xhibit Central Station 96102 (includes Xhibit Telemetry 96280) Operations CD-ROM* (P/N 084-2301-xx) and to the *Xhibit Central Station 96102 (includes Xhibit Telemetry 96280) Service CD-ROM* (P/N 084-1479-xx).

For information that relates to the 90478 receiver and digital telemetry systems, refer to the *Bedside, Central, and Telemetry Systems Operations Documents CD-ROM* (P/N 084-1101-xx) and to the *Spacelabs Healthcare Service CD-ROM* (P/N 084-0700-xx).

National radio frequency allocations restrict distribution to all locales. Check with your local Spacelabs Healthcare representative.

Classification

MDD	Class IIb
EN 60601-1	Type CF applied part, defibrillator proof
	Rated for continuous use

Environmental Requirements

Operating	
Temperature	0° to 50° C (32° to 122° F)
Humidity	95% (noncondensing)
Altitude	0 to 3,000 m (0 to 9,843 ft)
Storage	
Temperature	-40° to 75° C (-40° to 167° F)
Humidity	95% (noncondensing)
Altitude	-152.4 to 12,192 m (-500 to 40,000 ft)

Accessories

Refer to the Spacelabs Healthcare Supplies and Accessories Catalog for a complete list of available ECG lead wires and electrodes and SpO_2 sensors from Spacelabs Healthcare.

Documentation

This product ships with a complete set of comprehensive documentation.

For a full list of available supplies and accessories, refer to the *Spacelabs Healthcare Supplies and Accessories Catalog* at https://www.spacelabshealthcare.com/products/supplies.

Regulatory Approvals

Medical telemetry spectrum allocations may be assigned to frequencies already allotted to other priority users. This means that telemetry operations may be exposed to radio frequency interference that may disrupt or impede telemetry patient monitoring. Additionally, medical telemetry spectrum allocations may be changed by government action. Spacelabs Healthcare accepts no responsibility for such changes, including the possibility that the product may not operate in the modified permissible spectrum ranges

other than those expressly set forth in Spacelabs Healthcare's published product data sheets. Spacelabs Healthcare cannot and does not guarantee interference-free telemetry operation.

Operation of this equipment in the U.S. Wireless Medical Telemetry Service (WMTS) bands requires coordination and registration with the FCC designated frequency coordinator.

96281 Telemetry Transmitters operating in the Wireless Medical Telemetry Service (WMTS) band are approved by the FCC (47CFR Part 95) and Industry Canada (RSS-210).

CSA certified. Meets IEC 60601-1, CSA C22.2 No. 60601.1, and ANSI/AAMI ES60601-1 for electrical safety.

The 96281-32 and 96281-48 medical telemetry transmitter is CE marked in accordance with Medical Device Directive 93/42/EEC.

The 96281-x32y is CE marked in accordance with the Radio and Telecommunications Terminal Equipment (RTTE) Directive 99/5/EC and operates in the European 433.05 to 434.79 MHz harmonized Short Range Device (SRD) band.

The 96281-x48N is CE marked in accordance with the Radio and Telecommunications Terminal Equipment (RTTE) Directive 99/5/EC and operates in the Dutch 442 and 446 MHz licensed telemetry channels.

Consult your local Spacelabs Healthcare sales representative for available frequency bands.

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