SPACELABS HEALTHCARE

Data Sheet

AriaTele Telemetry Transmitter
96281

AriaTele Transmitter (96281-A/B/C)

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	Rejects the pacemaker pulses having amplitudes ±2 mV to ±700 mV and pulse widths from 0.1 ms to 2.0 ms, with an overshoot of less than or equal to 4 ms		
Remote record button	yes		
Dimensions (H × W × D)	<134 × 80 × 30 mm (5.28 × 3.15 × 1.18 inches)	<134 × 80 × 30 mm (5.28 × 3.15 × 1.18 inches)	<134 × 80 × 30 mm (5.28 × 3.15 × 1.18 inches)
Weight	<241 g (8.5 oz.) without grouper, batteries, lead	<241 g (8.5 oz.) without grouper, batteries, leads	<241 g (8.5 oz.) without grouper, batteries, leads, SpO_2 cable
Display size (H × W)	N/A	35 × 47 mm	
Display type	N/A	color LCD	
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)		

	96281-A ECG without Display	96281-B ECG with Display	96281-C ECG and SpO_2 with Display
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	<30 µV peak-valley		
CMRR	Output signal not greater than 7.95 mm at 10 mm Peak-to-valley at a gain setting of 10 mm/mV		
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	>2.5 MΩ		
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 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: CM6-670-1632-1400		
Radio Compliance IC	608MHz (-05 model): RSS210-2010 ICID: TAC 2434A-6701187608 1400MHz (-09 model): RSS210-2010 ICID: TAC 2434A-6701632		
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		

Note:

The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc., and any use of such marks by Spacelabs Healthcare, Inc. is under license. Other trademarks and trade names are those of their respective owners.

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.

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).

* *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

Harmonized EU Standards

DS/EN 60601-1	MEDICAL ELECTRICAL EQUIPMENT – Part 1-2: General requirements for basic safety and essential performance; Ed 3.2; 11 Oct 2021
DS/EN 60601-1-2	Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance – Collateral Standard: Electromagnetic disturbances – Requirements and tests; Ed 4.1; 22 Mar 2021
DS/EN 60601-2-27	Medical electrical equipment - Part 2-27: Particular requirements for the basic safety and essential performance of electrocardiographic monitoring equipment; Ed 3.0; 12 Sep 2014
DS/EN 80601-2-49	Medical electrical equipment –Part 2-49: Particular requirements for the basic safety and essential performance of multifunction patient monitors; Ed 1.0; 14 Oct 2019

DS/EN ISO 15223-1	Medical devices-Symbols to be used with medical device labels, labelling and information to be supplied- Part 1: General requirements; 4th Ed*; 7 Oct 2021
DS/EN ISO 20417	Medical devices — Information to be supplied by the manufacturer; 1st Ed; 10 May 2021
DS/EN ISO 80601-2-61	Medical electrical equipment – Part 2-61: particular requirements for basic safety and essential performance of pulse oximeter equipment; 2nd Ed Corrected; 4 Feb 2019

Nonharmonized Standards

IEC 60601-1	MEDICAL ELECTRICAL EQUIPMENT – Part 1-2: General requirements for basic safety and essential performance; Ed 3.2; 1 Aug 2020
CSA CAN/CSA-C22.2 NO. 60601-1:14	MEDICAL ELECTRICAL EQUIPMENT – Part 1-2: General requirements for basic safety and essential performance; Ed 3.2; 01 Sep 2020
IEC 60601-1-2	Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance – Collateral Standard: Electromagnetic disturbances; Ed 4.1; 1 Sep 2020
CSA C22.2 NO. 60601-1-2:16	Medical electrical equipment – Part 1-2: General requirements for basic safety and essential performance – Collateral Standard: Electromagnetic disturbances; Ed. 4.1; 2021
IEC 60601-2-27	Medical electrical equipment – Part 2-27: Particular requirements for the basic safety and essential performance of electrocardiographic monitoring equipment; Ed 3.0; 1 Mar 2011
CSA CAN/CSA-C22.2 NO. 60601-2-27:11	Medical electrical equipment – Part 2-27: Particular requirements for the basic safety and essential performance of electrocardiographic monitoring equipment; Ed 3.0; 2011
IEC 80601-2-49	Medical electrical equipment –Part 2-49: Particular requirements for the basic safety and essential performance of multifunction patient monitors; Ed 1.0; 1 Mar 2018
CSA C22.2 NO. 80601-2-49:22	Medical electrical equipment –Part 2-49: Particular requirements for the basic safety and essential performance of multifunction patient monitors; Ed 1.0; 2022
ISO 780	Packaging – Distribution packaging – Graphical symbols for handling and storage of packages; 5th Ed; 1 Dec 2015
ISO 15223-1	Medical devices-Symbols to be used with medical device labels, labelling and information to be supplied- Part 1: General requirements; 4th Ed; 1 Jul 2021
ISO 20417	Medical devices—Information to be supplied by the manufacturer; 1st Ed; 1 Apr 2021
ISO 80601-2-61	Medical electrical equipment – Part 2-61: particular requirements for basic safety and essential performance of pulse oximeter equipment; 2nd Ed Corrected; 1 Dec 2017
CSA C22.2 NO. 80601-2-61-21	Medical electrical equipment – Part 2-61: particular requirements for basic safety and essential performance of pulse oximeter equipment; 2nd Ed; 2021

Environmental Requirements

Operating	
Temperature	0° to 50° C (32° to 122° F)
Humidity	15 to 95% relative humidity (noncondensing)
Altitude	0 to 3,000 m (0 to 9,843 ft)
Storage	
Temperature	-40° to 75° C (-40° to 167° F)

Humidity	15 to 95% relative humidity (noncondensing)
Altitude	-152.4 to 12,192 m (-500 to 40,000 ft)

Accessories

For a complete list of available ECG lead wires and electrodes and SpO_2 sensors from Spacelabs Healthcare, go to https://www.spacelabshealthcare.com/products/supplies.

Documentation

This product ships with a complete set of comprehensive documentation.

For a full list of available supplies and accessories, go to 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).

C SP® US	CSA certified. Meets IEC 60601-1, CSA C22.2 No. 60601.1, and ANSI/AAMI ES60601-1 for electrical safety.
CE 0123	The 96281-32 and 96281-48 medical telemetry transmitters are CE marked in accordance with Medical Device Directive 93/42/EEC. The 96281-x32y complies with Radio Equipment Directive (RED) 2014/53/EU and operates in the European 433.05 to 434.79 MHz harmonized Short Range Device (SRD) band. The 96281-x48N complies with the Radio Equipment Directive (RED) 2014/53/EU and operates in the Dutch 442 and 446 MHz licensed telemetry channels. Consult your local Spacelabs Healthcare sales representative for available frequency bands.

We are continuously improving our products. Specifications are subject to change without notice. Product images are provided for general reference. This product may not be available for sale in all countries.

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