AZURE™ S SR MRI SURESCAN™

Model W3SR01

- Bluetooth® wireless telemetry
- Approved for 1.5T and 3T MRI use

Physical characteristics

Physical characteristics	
Volume[a]	12.25 cm^3
Mass	22.5 g
H x W x D[b]	42.6 mm x 50.8 mm x 7.4 mm
Radiopaque ID[c]	RNA
Surface area of titanium device can	33.48 cm^2
Materials in contact with human tissue[d]	Titanium, polyurethane, silicone rubber
Battery	Lithium-hybrid CFx silver vanadium oxide

[a] Volume with connector holes unplugged.
[b] Grommets may protrude slightly beyond the can surface.
[c] The radiopaque ID, which includes a Medtronic-identifier symbol, can be viewed in a fluoroscopic image of the device.
[d] These materials have been successfully tested for the ability to avoid biological incompatibility. The device does not produce an injurious temperature in the surrounding tissue during normal operation.

Replacement indicators	
Recommended Replacement Time (RRT)	≤ 2.63 V on 3 consecutive daily automatic measurements
Elective Replacement Indicator (ERI)	3 months after RRT
End of Service (EOS)	3 months after ERI

Pacing parameters

Modes, rates, and intervals	
Parameter	**Programmable values**
Mode	VVIR ◈; VVI; VOO; OVO
Lower Rate[a]	30; 35 ... 60 ◈; 70; 75 ... 150 min^{-1} (±2 min^{-1})

[a] The corresponding Lower Rate Interval can be calculated as follows: Lower Rate Interval (ms) = 60,000/Lower Rate.

RV parameters	
Parameter	**Programmable values**
RV Amplitude	0.5; 0.75 ... 1.25 V (+0.125 V/-33%) 1.50 ... 3.5 ◈ ... 5; 5.5; 6; 8 V (+15%/-33%)[a]
RV Pulse Width	0.03; 0.06 ms (± 10 µs); 0.1; 0.2; 0.3; 0.4 ◈ ... 1.5 ms (± 25 µs)

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RV parameters, cont'd.

Parameter	Programmable values
RV Sensitivity[b]	0.45; 0.60 mV (±50%); 0.90 ◆; 1.20; 2.00; 2.80; 4.00; 5.60; 8.00; 11.30 mV (±30%) Unipolar: 2.80 ◆ mV Bipolar: 0.90 ◆ mV
RV Pace Polarity	Bipolar; Unipolar
RV Sense Polarity	Bipolar; Unipolar
RV Lead Monitor	Monitor Only; Adaptive
Min Limit	200 ◆ ; 300; 400; 500 Ω
Max Limit	1,000; 1,500; 2,000; 3,000 ◆ Ω

[a] When RV Amplitude is 8 V, RV Pulse Width must be less than 1.3 ms.
[b] This setting applies to all sensing in this chamber for both tachyarrhythmia detection and bradycardia pacing operations.

RV Capture Management™ parameters

Parameter	Programmable values
RV Capture Management™	Adaptive ◆; Monitor; Off
RV Amplitude Safety Margin	1.5x; 2.0x ◆; 2.5x; 3.0x
RV Minimum Adapted Amplitude	1.0; 1.5; 2.0 ◆; 2.5; 3.0; 3.5 V
RV Acute Phase Remaining	Off; 30; 60; 90; 120 ◆; 150 days

Blanking periods

Parameter	Programmable values
V. Blank Post VP	150; 160 ... 200 ◆ ... 320 ms (+5; –30 ms)
V. Blank Post VS	120 ◆; 130 ... 170; 200; 220; 250; 280; 300; 320 ms (+2; –30 ms)

Rate response pacing parameters

Parameter	Programmable values
Upper Sensor Rate	80; 85 ... 130 ◆ ... 175 min^{-1} (± 2 min^{-1})
ADL Rate	60; 65 ... 95 ◆ ... 170 min^{-1} (± 2 min^{-1})
Rate Profile Optimisation	On ◆; Off
ADL Response	1; 2; 3 ◆; 4; 5
Exertion Response	1; 2; 3 ◆; 4; 5
Activity Threshold	Low; Medium Low ◆; Medium High; High
Activity Acceleration	15; 30 ◆; 60 s
Activity Deceleration	Exercise ◆; 2.5; 5; 10 min
ADL Set Point	5; 6 ... 40; 42 ... 80
UR Set Point	15; 16 ... 40; 42 ... 80; 85 ... 180

Sleep parameters

Parameter	Programmable values
Sleep	On; Off ◆
Sleep Rate	30; 35 ... 50 ◆; 55; 60; 70; 75 ... 100 min^{-1}
Bed Time	00:00; 00:10 ... 22:00 ◆ ... 23:50
Wake Time	00:00; 00:10 ... 07:00 ◆ ... 23:50

MRI SureScan™ parameters

Parameter	Programmable values
MRI SureScan™	On; Off
MRI Pacing Mode	VOO; OVO
MRI Pacing Rate	60; 70; 75; 80 ... 120 min^{-1}

Additional pacing features

Parameter	Programmable values
Rate Hysteresis	Off ◆; 30; 40 ... 80 min^{-1}

Tachyarrhythmia parameters

Tachyarrhythmia detection parameters

Parameter	Programmable values
VT Monitor	Monitor ◆; Off
VT Monitor Interval (Rate)[a]	280; 290 ... 360 ◆ ... 500 ms
RV Sensitivity[b,c]	0.45; 0.60 mV (±50%); 0.90; 1.20; 2.00; 2.80; 4.00; 5.60; 8.00; 11.30 mV (±30%) Bipolar: 0.90 ◆ mV Unipolar: 2.80 ◆ mV

[a] The measured intervals are truncated to a 10 ms multiple (for example, 457 ms becomes 450 ms). The device uses this truncated interval value when applying the programmed criteria and calculating interval averages.
[b] This setting applies to all sensing in this chamber for both tachyarrhythmia detection and bradycardia pacing operations.
[c] The device complies with the requirements of ISO 14708-2 when the sensitivity threshold is programmed to 2.0 mV or higher.

Data collection parameters

Data collection parameters

Parameter	Programmable values
EGM 1 Source	Can to RVring; RVtip to RVring ◆; RVtip to Can
EGM 1 Range	±1; ±2; ±4; ±8 ◆; ±12; ±16; ±32 mV
EGM 2 Source	Can to RVring; RVtip to RVring; RVtip to Can ◆
EGM 2 Range	±1; ±2; ±4; ±8 ◆; ±12; ±16; ±32 mV
EGM 3 Source	RVtip to RVring; Can to RVring ◆; RVTip to Can
EGM 3 Range	±1; ±2; ±4; ±8 ◆; ±12; ±16; ±32 mV
Monitored	EGM1 and EGM2 ◆; EGM1 and EGM3; EGM2 and EGM3
Pre-arrhythmia EGM	Off ◆; On – 1 month; On – 3 months; On Continuous
Device Date/Time[a]	(select Time Zone)
Holter Telemetry	Off ◆; 0.5; 1; 2; 4; 8; 16; 24; 36; 46 hr
Wireless Telemetry with Monitor	On; Off

[a] The times and dates stored in episode records and other data are determined by the Device Date/Time clock.

Medtronic CareAlert™ parameters

Clinical management alerts

Parameter	Programmable values
Monitored VT Episode Detected	Off ◈; On

Lead/Device integrity alerts

Parameter	Programmable values
Low Battery Voltage RRT	On ◈; Off
Lead Impedance Out of Range	
Lead Impedance	
RV Pacing Enable	On ◈; Off
RV Pacing Less than	200 ◈; 300; 400; 500 Ω
RV Pacing Greater than	1,000; 1,500; 2,000; 3,000 ◈ Ω
Capture Management™ High Threshold	
High Threshold	
RV Capture Enable[a]	Off ◈; On

[a] If programmed to On, alert notification is sent if RV capture management™ has measured high thresholds for 3 consecutive days.

System test parameters

System test parameters

Parameter	Selectable values
Pacing Threshold Test parameters	
Test Type	Amplitude; Pulse Width
Chamber	RV
Decrement after	2; 3 ... 15 pulses
RV Pace Polarity	Unipolar; Bipolar
Mode[a]	VVI; VOO
Lower Rate	30; 35 ... 60; 70; 75 ... 150 min^{-1}
RV Amplitude	0.25; 0.5 ... 5; 5.5; 6; 8 V
RV Pulse Width	0.03; 0.06; 0.1; 0.2 ... 1.5 ms
V. Pace Blanking	150; 160 ... 320 ms
Sensing Test parameters	
Mode[a]	VVI; OVO
Lower Rate	30; 35 ... 60; 70; 75 ... 120 min^{-1}

[a] The selectable values for this parameter depend on the programmed pacing mode.

Longevity

Projected service life in years

Pacing	Pre-arrhythmia EGM storage[a]	500 Ω pacing impedance		600 Ω pacing impedance		900 Ω pacing impedance	
		2.5 V	3.5 V	2.5 V	3.5 V	2.5 V	3.5 V
VVI, 0%	Off	18.3	18.3	18.3	18.3	18.3	18.3
	On	18.2	18.2	18.2	18.2	18.2	18.2
VVI, 15%	Off	17.5	16.7	17.6	16.9	17.8	17.3
	On	17.4	16.6	17.5	16.8	17.7	17.2
VVI, 50%	Off	15.8	13.9	16.1	14.4	16.7	15.4
	On	15.7	13.8	16.0	14.3	16.6	15.3
VVI, 100%	Off	13.9	11.2	14.4	11.9	15.4	13.3
	On	13.8	11.1	14.3	11.8	15.3	13.2

[a] The data provided for programming Pre-arrhythmia EGM storage to On are based on a 6-month period (two 3-month follow-up intervals) over the life of the device. Additional use of Pre-arrhythmia EGM storage reduces projected service life by approximately 13.6% or 1.6 months per year.

Note: These projections are based on typical shelf storage time (5 months). Assuming worst-case shelf storage time (18 months), longevity is reduced by approximately 7%.

The data are based on pacing outputs programmed to the specified amplitude and 0.4 ms pulse width and 60 min^{-1} pacing rate. The service life of the device is affected by the programmed settings for certain features, such as Pre-arrhythmia EGM storage. Projected service life estimates are based on accelerated battery discharge data and device modeling as specified. These values should not be interpreted as precise numbers.

IMPORTANT REMINDER
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Brief Statement
See the MRI SureScan™ technical manual before performing an MRI scan and the device manual for detailed information regarding the implant procedure, indications, contraindications, warnings, precautions, and potential adverse events.
For further information, contact your local Medtronic representative or consult the Medtronic website at www.medtronic.com.

www.medtronic.com/manuals

Consult instructions for use on this website. Manuals can be viewed using a current version of any major Internet browser. For best results, use Adobe Acrobat® Reader with the browser.

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