Medtronic
Engineering the extraordinary

Barrx™ radiofrequency ablation system

Quick reference guide

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The following information is intended as a quick reference. For full details, please refer to this product's Instructions For Use (IFU). Contact customer service or your sales representative for the most in–to–date revision of the package insert.

Task	Review
Basic Troubleshooting	**Problem: No RF Power Output** • Energy Generator not plugged in • Energy Generator not turned on • Energy Generator in STANDBY mode • Energy Generator in FAULT mode • Energy Generator still in ABLATION COMPLETE mode • Fault in accessory or Footswitch • Output Cable not connected to the Energy Generator • No Ablation Catheter Connected • Defective Ablation Catheter • Energy Density Parameter Not Set • Internal Energy Generator failure • Balloon Inflation Error. The pressure in the Balloon Based Ablation Catheter or Barrx 360 Express RFA Balloon Catheter is less than the target pressure
	Operational and Fault Codes If a fault condition occurs, the System Status display on the front panel will display an operational code, and all others will be blank. The interpretation of the operational, error and fault codes, as well as possible causes and solutions are listed in Tables 3.A, 3.B, 3.C and 3.D. In the event of an operational /error or fault code, endoscopic visualization must be used to verify complete balloon deflation if using a Balloon Based Ablation Catheter, Barrx 360 Express RFA Balloon Catheter, or Sizing Balloon. If the Energy Generator displays an E95 operational code when using a Balloon Based Ablation Catheter, Barrx 360 Express RFA Balloon Catheter, or Sizing Balloon, this is probably due to an air leak within the system. In such situations verify the following connections are secure: • The pneumatic connector between the Energy Generator and the Output Cable; • The pneumatic connector between the Output Cable and the Barrx filter; • The connection between the filter and the Ablation Catheter. If the E95 operational code is observed again, there may be an air leak in the Ablation Catheter. Under endoscopic visualization, confirm that the balloon is fully deflated and then remove the Ablation Catheter. If the balloon is not deflated by depressing the DEFLATE control button or by depressing the Auto Inflation Foot Pedal, then manually deflate the balloon using a syringe via the pneumatic connector. Remove and replace the Ablation Catheter.
Complaint Filing	**1. Complete the field and technical report form (which includes the information below)** **2. Details must be included:** • Date Medtronic employee was first notified of the event/problem • Initial Reporter: Who informed the sales representative or tech support of the event • List of all products involved • Accurate description of the problem • Issues that the Device problem directly resulted into **3. Retain defective product for return**

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Troubleshooting Codes

Table 3.A. Post Faults (Unrecoverable)

Error code	Description	System status messages	Auto deflate function active on error for balloon based catheters
P01	**POST CPU Configuration Operational Code**	Disconnect Catheter P01 – Cycle Power	N/A
P02	**POST ROM Test Operational Code**	Disconnect Catheter P02 – Cycle Power	N/A
P03	**POST RAM Test Operational Code**	Disconnect Catheter P03 – Cycle Power	N/A
P04	**POST Power Operational Code**	Disconnect Catheter P04 – Cycle Power	N/A
P05	**POST Impedance Operational Code**	Disconnect Catheter P05 – Cycle Power	N/A
P06	**POST Voltage Operational Code**	Disconnect Catheter P06 – Cycle Power	N/A
P07	**POST Current Operational Code**	Disconnect Catheter P07 – Cycle Power	N/A
P08	**POST Reference Voltage Operational Code**	Disconnect Catheter P08 – Cycle Power	N/A
P09	**POST Watchdog Test Operational Code**	Disconnect Catheter P09 – Cycle Power	N/A
P010	**POST Output Transformer Impedance Operational Code**	Disconnect Catheter P10 – Cycle Power	N/A
P011	**POST Pressure Sensor Offset Operational Code**	Disconnect Catheter P11 – Cycle Power	N/A
P012	**POST Pressure Reference Voltage Operational Code**	Disconnect Catheter P12 – Cycle Power	N/A
P015	**POST Real Time Clock Test Operational Code**	Disconnect Catheter P15 – Cycle Power	N/A
P016	**POST Real Time Clock Date Operational Code**	Disconnect Catheter P16 – Cycle Power	N/A
P017	**POST Switch Closed Operational Code**	Disconnect Catheter P17 – Cycle Power	N/A

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Table 3.B. Software/Hardware Faults (Unrecoverable)

Error code	Description	System status messages	Auto deflate function active on error for balloon based catheters
H10	**COP Operational Code**	Disconnect Catheter H10 – Cycle Power	Yes
H11	**Illegal CPU Instruction**	Disconnect Catheter H11 – Cycle Power	Yes
H12	**Duplicate Variable Operational Code**	Disconnect Catheter H12 – Cycle Power	Yes
H13	**Software Operational Code**	Disconnect Catheter H13 – Cycle Power	Yes
H15	**Reference Voltage Operational Code**	Disconnect Catheter H15 – Cycle Power	Yes
H16	**Vrms Offset Operational Code**	Disconnect Catheter H16 – Cycle Power	Yes
H17	**Irms Offset Operational Code**	Disconnect Catheter H17 – Cycle Power	Yes
H18	**Pmes Offset Operational Code**	Disconnect Catheter H18 – Cycle Power	Yes
H19	**RF ON Synch Operational Code**	Disconnect Catheter H19 – Cycle Power	Yes
H20	**Pressure Out of Range Operational Code**	Disconnect Catheter H20 – Cycle Power	Yes
H22	**Output Transformer Channel Set Operational Code**	Disconnect Catheter H22 – Cycle Power	Yes
H23	**Duplicate Pressure Operational Code**	Disconnect Catheter H23 – Cycle Power	Yes

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Table 3.C. Catheter Errors (Recoverable)

Error code	Description	System status messages	Auto deflate function active on error for balloon based catheters
C50	**EEPROM CRC Code**	C50 – Reconnect or Discard Catheter	No
C51	**Invalid Catheter ID Code**	C51 – Reconnect or Discard Catheter	No
C52	**Expired Catheter Code**	C52 – Max Time Reached Discard Catheter	Yes
C53	**Catheter Use Exceeded Code**	**Sizing Balloon:** Discard Catheter C53 – Max Use Reached nnmm Recommended **Barrx 360 RFA Balloon Catheter:** Discard Catheter C53 – Max Use Reached nnn% nnn% nnn% Energy Delivered **Barrx 360 Express RFA Balloon Catheter:** Discard Catheter C53 – Max Use Reached Energy Delivered **Non Balloon Based Ablation Catheter:** Discard Catheter C53 – Max Use Reached nn% Energy Delivered	Yes
C55	**Catheter Type Code**	C55 – Reconnect or Discard Catheter	Yes
C56	**Filter Blocked Code**	C56 – Filter Blocked Remove Filter Deflate with Syringe Discard Catheter	No
C57	**EEPROM Setting Code**	Unusable Catheter C57 – Discard Catheter	No

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Table 3.D. Application Operational Codes (Recoverable)

Error Code	Description	System Status Messages	Auto deflate function active on error for balloon based catheters	Require Reset Button
E71	**Handpiece Communication Loss**	**Barrx 360 Express RFA Balloon Catheter:** E71 – Catheter Communication Error Press Reset	Yes	Yes
E72	**IO Expander Readback Error**	**Barrx 360 Express RFA Balloon Catheter:** E72 – Catheter Electronics Fault Replace Catheter	Yes	N/A, catheter must be disconnected and discarded
E73	**MOSFET Stuck Error**	**Barrx 360 Express RFA Balloon Catheter:** E73 – Catheter Electronics Fault Replace Catheter	Yes	N/A, catheter must be disconnected and discarded
E81	**Low Impedance Error**	**Barrx 360 RFA Balloon Catheter:** E81 – Catheter Too Big Check Sizing Results Consider Smaller Ablation Catheter nnn% nnn% nnn% Energy Delivered **Barrx 360 Express RFA Balloon Catheter:** E81 – Clean Electrode Low Energy Delivered **Non Balloon Based Ablation Catheter:** E81 – Clean Electrode nn% Energy Delivered n Ablations	Yes	No

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Table 3.D. Application Operational Codes (Recoverable)

Error Code	Description	System Status Messages	Auto deflate function active on error for balloon based catheters	Require Reset Button
E82	**High Impedance Error**	**Barrx 360 RFA Balloon Catheter:** E82 – Clean Electrode or Poor Elec Contact nnn% nnn% nnn% Energy Delivered **Barrx 360 Express RFA Balloon Catheter:** E82 – Clean Electrode or Poor Elect Contact Low Energy Delivered **Non Balloon Based Ablation Catheter:** E82 – Clean Electrode or Poor Elec Contact nn% Energy Delivered n Ablations	Yes	No
E83	**Voltage Limit Error**	**Barrx 360 RFA Balloon Catheter:** E83 – Clean Electrode or Poor Elec Contact nnn% nnn% nnn% Energy Delivered **Barrx 360 Express RFA Balloon Catheter:** E83 – Clean Electrode or Poor Elect Contact Low Energy Delivered **Non Balloon Based Ablation Catheter:** E83 – Clean Electrode or Poor Elec Contact nn% Energy Delivered n Ablations	Yes	No

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