Specifications

Conditions of Sale

STANDARD: The seller's standard conditions of sale set forth in Price Sheet 150 apply, except as modified by the "SPECIAL WARRANTY PROVISIONS" section on page 2 and "WARRANTY QUALIFICATIONS" section on page 3.

SPECIAL TO THIS PRODUCT:

INCLUSIONS: 6802 and 6803 Automatic Switch Controls combine sophisticated automatic control schemes with Remote Terminal Unit (RTU) functionality, data logging, and advanced communication capabilities in a single package. Models are available for mounting in equipment enclosures, pedestal mounting, and pole mounting. 6802 and 6803 controls manage distribution switches and can automatically sectionalize a feeder based on such factors as overcurrent, loss of voltage, and phase unbalance. One control can automate up to three switches, and multiple controls can be programmed to communicate with each other using the optional IntelliTeam® SG Automatic Restoration System.

The IntelliTeam SG Automatic Restoration System allows multiple switch controls to work together in teams using peer-to-peer communication and to quickly transfer load to minimize the number of customers affected by a fault or outage. The system uses distributed intelligence; no central processing or SCADA is required (though fully supported). Different types of switches, reclosers, and controls can be included in the same team.

Utility personnel can communicate with 6802 and 6803 controls to identify and isolate faults and restore service—with or without a SCADA master station. Distributed Network Protocol (DNP) 3.0 is the supported protocol, and two S&C-approved radios can be accommodated—one for an automation network and one as a SCADA gateway radio. Only recommended radios or a fiber-optic modem are the recommended communication devices for use with the IntelliTeam SG Automatic Restoration System.

6802 and 6803 controls provide true RMS voltage and current readings. Over the operating temperature range of -40°F (-40°C) to 158°F (70°C), current readings are accurate to ±0.5% full scale, with a resolution of 1 ampere, RMS; voltage readings are accurate to ±0.5% full scale, with a resolution of 0.1 Vac. Phase-angle readings are accurate to ±1° at 5% of full-scale current, with a resolution of ⅛°. The switch controls have a current sensor input range of 0 to 800 amperes, RMS.

6802 and 6803 controls are configured specifically for fault detection. Over the overcurrent fault-detection range of 0 to 4000 amperes RMS, overcurrent readings are accurate to ±0.5% full scale, with a resolution of 1 ampere, RMS.

6802 and 6803 controls have extensive data-logging capabilities. Voltage, current, and kvars are logged every 15 minutes for one month; daily maximum and minimum voltage, current, kvars, and power factor are logged for one year. Overcurrent, loss-of-voltage, and fault magnitude and duration data, as well as equipment diagnostics, are also recorded. A crystal-controlled, temperature-compensated clock (GPS is optional) provides accurate time-stamping of the data. The information collected at the switch location is invaluable for analyzing problems on the circuit, troubleshooting, optimizing performance of the installation, and planning for future requirements. With IntelliTeam SG system-equipped controls, data logging is especially useful for determining the sequence of events during a team reconfiguration and for comparing the information with substation data.

A PC using the Windows® 10 and later operating system can be connected via a DB9 or USB serial faceplate connector and IntelliLink® Setup Software used to view real-time data, manage setpoints, troubleshoot, and download historical data for reports. Setpoints and data can also be accessed remotely using the IntelliLink Setup Software.

6802 and 6803 controls use a single power supply and battery, eliminating the problems inherent in controls with multiple power supplies and batteries. This highly

efficient power supply delivers 12 Vdc to the entire system, and it supplies 24 Vdc for PME, PMH, and other 24-Vdc applications, or 36 Vdc for Vista® Underground Distribution Switchgear and other 36-Vdc applications.

Temperature-compensated battery charging and float charging maximize battery life. The battery condition is periodically checked under varying loads. Detailed information on battery and power-supply status is available at the faceplate liquid-crystal display and is accessible at remote locations in communication-device-equipped controls. 6802 and 6803 controls for use with S&C switching devices can accept control power from a 100- to 140-Vac or 200- to 280-Vac source, or from S&C sensor outputs. If both ac and sensor sources are available, the control automatically uses control power and switches to sensor power if control power is lost.

Automatic Sectionalizing

6802 and 6803 controls have automatic sectionalizing capabilities that can improve circuit reliability when coordinated with source-side reclosing devices. The controls can help reduce loss of service and locate faulted line sections. Controls equipped with IntelliTeam SG system automatic circuit reconfiguration can provide full restoration of unaffected customer loads if circuit capacity will allow it.

Shots to Lockout

The selectable **Shots-to-Lockout** feature prevents the source-side protective device from reclosing into a fault multiple times.

Loss of Phase

6802 and 6803 controls protect three-phase loads from single-phasing by automatically opening the switch. The controls can be programmed to automatically reclose the switch when three-phase voltage returns.

Hot Line Tag

A hot line tag can be set with either a SCADA command or with a configurable button on the faceplate. It can only be cleared by the command type used to set it.

Switching Devices Supported

6802 and 6803 controls support the following switching devices:

- Scada-Mate® Switching Systems
- Scada-Mate® SD Switching Systems
- S&C remote supervisory PME and PMH Pad-Mounted Gear
- Remote supervisory Vista® Underground Distribution Switchgear
- Other specific switching devices listed in Table 2 on page 5
- For applicability to other switching devices, refer to your nearest S&C Sales Office.

EXCLUSIONS: 6802 and 6803 Automatic Switch Controls do not include a communication device, antenna, or antenna connections.

For non-IntelliTeam SG Automatic Restoration System applications, S&C may be able to furnish and install in the 6802 or 6803 Automatic Switch Control or make provision for a customer-specified communication device *not* listed in Table 6 on page 8. S&C will need to evaluate the physical and electrical requirements of the communication device and its performance characteristics and conduct qualification testing to verify its suitability for the desired application. Refer to the nearest S&C Sales Office for scheduling information. S&C cannot furnish or install any communication device for which the supplier requires S&C to offer Tier I (i.e., "help desk") support.

SPECIFICATION DEVIATIONS: Refer to the Table 6 on page 8.

SPECIAL WARRANTY PROVISIONS: The standard warranty contained in seller's standard conditions of sale, as set forth in Price Sheet 150, applies to 6802 and 6803 Automatic Switch Controls, except that the first and second paragraphs of said warranty are replaced by the following:

(1) General: The seller warrants to the immediate purchaser or end user for a period of 5 years from the date of shipment that the equipment delivered will be of the kind and quality specified in the contract description and will be free of defects of workmanship and material. Should any failure to conform to this warranty appear under proper and normal use within 5 years after the date of shipment, the seller agrees, upon prompt notification thereof and confirmation that the equipment has been stored, installed, operated, and maintained in accordance with recommendations of the seller and standard

industry practice, to correct the nonconformity either by repairing any damaged or defective parts of the equipment or (at the seller's option) by shipment of necessary replacement parts.

The seller's warranty does not apply to any equipment that has been disassembled, repaired, or altered by anyone other than the seller. This limited warranty is granted only to the immediate purchaser or, if the equipment is purchased by a third party for installation in third-party equipment, the end user of the equipment. The seller's duty to perform under any warranty may be delayed, at the seller's sole option, until the seller has been paid in full for all goods purchased by the immediate purchaser. No such delay shall extend the warranty period.

The seller further warrants to the immediate purchaser or end user that for a period of two years from the date of shipment the software will perform substantially in accordance with the then-current release of specifications if properly used in accordance with the procedures described in the seller's instructions. The seller's liability regarding any of the software is expressly limited to exercising its reasonable efforts in supplying or replacing any media found to be physically defective or in correcting defects in the software during the warranty period.

The seller does not warrant the use of the software will be uninterrupted or error-free.

WARRANTY QUALIFICATIONS: Warranty of 6802 and 6803 Automatic Switch Controls is contingent upon the installation, configuration, and use of the control or software in accordance with S&C's applicable instruction sheets. This warranty does not apply to major components not of S&C manufacture, such as batteries, communication devices, and remote terminal units.

However, S&C will assign to the immediate purchaser or end user all manufacturers' warranties that apply to such major components.

END USER LICENSE AGREEMENT: The end user is granted a nontransferable, non-sublicensable, nonexclusive license to use the LinkStart Connection Management Software, IntelliLink® Setup Software, IntelliTeam® Automatic Restoration System Software, automatic sectionalizing software, and/or other software furnished with 6802 and 6803 Automatic Switch Controls only upon acceptance of all the terms and conditions of the seller's end user license agreement set forth in Price Sheet 155.

How to Order a 6802/6803 Series Switch Control

Complete the following the steps to build a 6802 and 6803 Automatic Switch Control catalog number. Included with the steps are fill-in boxes to help keep track of the various components of the final catalog number.

Note: Pay strict attention to the various footnotes, which identify constraints and considerations regarding the selection of the various options.

STEP 1. Obtain the switch control catalog number from Table 1 on page 5.

Catalog Number: ☐☐☐☐

STEP 2. Select the switching device from Table 2 on page 5.

Suffix: ☐☐☐

STEP 3. Select the control software from Table 3 on page 6.

Suffix: ☐☐☐

STEP 4. (Optional) Select software from Table 4 on page 6.

Suffix: ☐☐☐

STEP 5. Select the mounting type from Table 5 on page 7.

Suffix: ☐☐☐

STEP 6. (Optional) Select options from Table 6 on page 8 and from Table 7 (options for gateway applications) on page 11.

Suffix: ☐☐☐

STEP 1. Obtain the catalog numbers for any desired accessories from Table 8 on page 12.

Catalog Number: ☐☐☐–☐☐☐☐☐☐–☐☐

Example: The catalog number for a 6802 Automatic Switch Control designated to operate and control two Scada-Mate Switches that has a pole-mounted padlockable corrosion-resistant aluminum enclosure with a rear hinge and a GPS module with a bottom-mounted N-type 900-MHz, 5-dB GPS antenna is:

6802–F01H15JB4T2

S2

Table 1. 6802 and 6803 Automatic Switch Controls

Item①	Control Source	Number of Switching Devices Controlled	Catalog Number
6802 Automatic Switch Control	100 to 135 Vac, 50/60 Hz or 200 to 270 Vac, 50/60 Hz	Two	6802
6803 Automatic Switch Control②	100 to 135 Vac, 50/60 Hz or 200 to 270 Vac, 50/60 Hz	Three③	6803

① Communication device, antenna, and antenna connections are not included. Switching device, control software, and mounting must be specified from Tables 2, 3, and 5 in this document.

② Not available for Remote Supervisory Vista Underground Distribution System applications.

③ Only two switching devices are automatically controlled by the 6803 Control Software. The third switching device can be operated remotely through SCADA or locally.

Table 2. Switching Device—Must Be Specified

Switching Device	Suffix to Be Added to Switch Control Catalog Number
Scada-Mate Switch, Scada-Mate SD Switch	-F01
Mini-Rupter® Switch in Remote Supervisory PME Pad-Mounted Gear	-F02
Mini-Rupter Switch in Remote Supervisory PMH Pad-Mounted Gear	-F03
Load-interrupter switch or fault interrupter in Remote Supervisory Vista Underground Distribution Switchgear	-F04
Mini-Rupter Switch with MS-2 Switch Operator in custom metal-enclosed switchgear①, Alduti-Rupter® Switch with AS-30 Switch Operator in custom metal-enclosed switchgear①	-F06●

① Requires input sensing provided by two potential transformers and six Lindsey current-only sensors, suffix “-K13,” or six potential transformers and six 1000:1 current transformers, suffix “-K14;” see Table 6 beginning on page 7.

● Only available with suffixes “-H13” and “-K13,” or “-K14.”

Table 3. Control Software—Must Be Specified

Control Software①	Applicable to Switching Device	Suffix to Be Added to Switch Control Catalog Number
6802 Vista switchgear	Load-interrupter switch or fault interrupter in Remote Supervisory Vista Underground Distribution Switchgear	-H12
6802-6803 Universal	Mini-Rupter Switch with MS-2 Switch Operator in custom metal-enclosed switchgear Alduti-Rupter Switch with AS-30 Switch Operator in custom metal-enclosed switchgear	-H13
6802-6803 Pad-mount	Mini-Rupter Switch in Remote Supervisory PME Pad-Mounted Gear Mini-Rupter Switch in Remote Supervisory PMH Pad-Mounted Gear	-H14
6802 Dual-overhead	Scada-Mate Switch Scada-Mate SD Switch	-H15

① Includes Bronze-Access level IntelliTeam SG Automatic Restoration System license. IntelliTeam® Designer configuration and license management software required to configure the IntelliTeam SG Automatic Restoration System and to enable automatic source-transfer functionality is not included. Gold-Access level IntelliTeam SG Automatic Restoration System License is required to enable **IntelliTeam II system-compatibility** mode. Refer to S&C Specification Bulletin 1044-31.

Table 4. Optional Software

Software	Catalog Number
IntelliTeam® II Automatic Restoration System Software License. Use this license for IntelliNode™ Interface Modules operating in an IntelliTeam II system with IntelliRupter® PulseCloser® Fault Interrupters, IntelliNode Interface Modules, 5800 Series Automatic Switch Controls, 6800 Series Automatic Switch Controls, 6801M Automatic Switch Operators, and Universal Interface Modules. This license includes an IntelliTeam Designer slot at no charge that must be entered as a separate line item. The slot allows an easy upgrade to IntelliTeam SG Automatic Restoration System at a later date. Requires an IntelliTeam II Automatic Restoration System-qualified communication device from Table 6 beginning on page 7	008-007106-02●
IntelliTeam Designer slot. Included in above license	008-007006-03

● The 008-007106-02 license should not to be confused with IntelliTeam SG Automatic Restoration System operating in **IntelliTeam II Automatic Restoration System** mode. An IntelliTeam system operating in **IntelliTeam II** mode requires an IntelliTeam SG system-qualified communication device.

Table 5. Mounting Type—Must Be Specified

Mounting Specification	Suffix to Be Added to Switch Control Catalog Number
No enclosure	-JB0
Pad mounting, to be integrated into customer-furnished low-voltage enclosure	-JB3
Pedestal mounting, in padlockable corrosion-resistant aluminum enclosure with rear hinge, W 18- × H 36- × D 9½-inches (457 × 914 × 241 mm)	-JB4
Pedestal mounting, in padlockable corrosion-resistant aluminum enclosure with front hinge, W 18- × H 36- × D 9½-inches (457 × 914 × 241 mm)	-JB5
Pole mounting, in padlockable corrosion-resistant aluminum enclosure, W 18- × H 24- × D 9½-inches (457 × 610 × 241 mm) for dual-overhead Scada-Mate Switch control	-JB7

Table 6. Options

Item		Suffix to Be Added to Switch Control Catalog Number
Wi-Fi module with antenna (Not available outside the United States and Canada. Contact S&C for options in other countries)		-A3
GPS module (requires GPS antenna). See Table 8 on pages 11 and 12. Antenna is included with Wi-Fi module with antenna, suffix "-A3"		-A4
Wi-Fi/GPS module with antenna, for wireless setup (Not available outside the United States and Canada. Contact S&C for options in other countries)		-A5
Sensing inputs (sensors not included)	Six S&C current/voltage sensors. Not available for suffix "-H13"①	-K2
	Three S&C voltage sensors and nine S&C current sensors①	-K3
	Two potential transformers and six Lindsey current only sensors	-K13
	Six potential transformers and six 1000:1 current transformers	-K14
Indicator option	Reversed colors for OPEN/CLOSED indicating lamps (green = closed, red = open)	-L1
Foreign language labels, front panel, and screens②	Spanish	-L51
	Portuguese	-L52
	French	-L53
	Chinese	-L54
	Arabic	-L55
Communication protocol	DNP 3.0	-P0
IntelliTeam SG system, IntelliTeam II system, and SCADA communication device and mounting (furnished by S&C; requires suffix "-R98")①	Factory-installed and wired iS5 Comm. Inc. - iES6-Slim with 2-SFP 100-Mbps multi-mode LC transceiver 550 m, 850 nm, low-voltage (Input 9-36 Vdc)	-R287
	Factory-installed and wired iS5 Comm. Inc. - iES6-Slim with 2-SFP 100-Mbps multi-mode LC transceiver 2 km, 1310 nm, low-voltage (Input 9-36 Vdc)	-R288
	Factory-installed and wired iS5 Comm. Inc. - iES6-Slim with 2-SFP 100-Mbps single mode LC transceiver 10 km, 1310 nm, low-voltage (Input 9-36 Vdc)	-R289
	Factory-installed and wired iS5 Comm. Inc. - iES6-Slim with 2-SFP 100-Mbps single mode LC transceiver 30 km, 1310 nm, low-voltage (Input 9-36 Vdc)	-R290
	Factory-installed and wired iS5 Comm. Inc. - iES6-Slim with 2-SFP 100-Mbps single mode LC transceiver 60 km, 1310 nm, low-voltage (Input 9-36 Vdc)	-R291
	Factory-installed and wired iS5 Comm. Inc. - iES6-Slim with 2-SFP 120-Mbps single mode LC transceiver 100 km, 1550 nm, low-voltage (Input 9-36 Vdc)	-R292
	Factory-installed and wired iS5 Comm. Inc. - iES6-Slim with 2-SFP 100-Mbps single mode LC transceiver 120 km, 1550 nm, low-voltage (Input 9-36 Vdc)	-R293

Footnotes for this table are on page 10.

TABLE CONTINUED►

Table 6. Options—Continued

Item		Suffix to Be Added to Switch Control Catalog Number
SCADA communication device and mounting (furnished by S&C; requires suffix "-R98")①	MDS TransNET 900 Transceiver with diagnostics	-R19
	MDS NR104L IP Radio. Includes serial to Ethernet device server	-R71
	MDS SD9 Remote Radio	●
	SpeedNet Cell Edge Gateway 4G LTE cellular modem with removable SIM card for USA and Canada (shipped without SIM Card)③	-R352
IntelliTeam SG system, IntelliTeam II system, and SCADA communication device ready for (communication device furnished by customer)①	Provision only for iS5 Comm. Inc. - iES6-Slim – Customer must provide iES6-Slim with 2-SFP LC transceivers.	-R285
	Provision only for Itron Bridge 5 (Gen 5) radio - Customer must provide/install Itron Bridge 5 radio	-R401
SCADA communication device ready for (communication device furnished by customer)①	MDS 9810 Radio	-R02
	MDS 9710A Radio. For new systems	-R03
	MDS 9710B Radio. For existing systems	-R04
	MDS Transnet 900 Radio	-R07
	MDS 2710D Radio	-R27
	FreeWave FGR-115RC Radio	-R30
	MDS 2710 Radio	-R32
	Internal MDS iNET 900 Dual Gateway: Ethernet and serial remote	-R34
	FreeWave DTR-115RU Radio	-R35
	FreeWave FGR-09CSU Radio	-R36
	H&L Model 570 Single-Mode Fiber-Optic Transceiver. Includes ST connectors④	-R137
	H&L Model 570 Multi-Mode Fiber-Optic Transceiver. Includes ST connectors ④	-R138
	MDS SD9 Remote Radio	-R188
Factory installation of communication device	Furnished by S&C	-R98
	Furnished by customer	-R99

Footnotes for this table are on page 10.

TABLE CONTINUED ►

Table 6. Options—Continued

Item		Suffix to Be Added to Switch Control Catalog Number
Antenna connections (multiple types may be specified)	N-Type Connector, Bottom mounted. For remote antenna installation	-S2
	PolyPhaser® Surge Suppressor, N-type connector, Bottom-mounted. For remote and local antenna installation	-S3
	Antenex NMO Mounting	-S4
	PolyPhaser Surge Suppressor, N-type connector, 800-2300 MHz. For dual-band cellular antenna	-S6
	PolyPhaser Surge Suppressor for GPS antenna. Includes 4-foot (122-cm) cable	-S9
	Two N-type connectors, Bottom mounted. Includes suppressor	-S11
	PolyPhaser Surge Suppressor for LTE with N-type female connector (698 - 2700 MHz)	-S14
Antenna	900-MHz 5-dB gain antenna, N-Type male connector	-T2
	LoPro Transit Antenna	-T5
	Dual-Band LoPro Cellular Antenna (824-896 and 1850-1990 MHz), 3 dBi	-T7
	Factory-installed top-mounted GPS⑤	-T9
	Factory-installed top-mounted GPS-Wi-Fi antenna	-T11
	Antenna, high-efficiency MLPV LTE (698-2700 MHz), permanent mount, 3-dB gain, no ground plane	-T25
Control power	From potential transformer, 100- to 135-Vac source⑥	-W1
	From sensors⑦	-W2
	From potential transformer, 200- to 270-Vac source⑥	-W3

① When applying S&C sensors at system voltages below 11.3 kV phase to phase, the "W1" option must be specified. Total maximum continuous power is 12 watts. This is the available power for all communication equipment installed in the switch control. A maximum peak transmit of 27 watts for up to 250 milliseconds is allowed, but the average power draw must not exceed 12 watts, including a transmission peak. Refer to the nearest S&C Sales Office if more than one communication device is to be installed in the control.

② Labels will add four weeks to lead time. Contact the nearest S&C Sales Office for front panel and screen availability.

③ Please see Specification Bulletin 1076-31 for SpeedNet Cell Edge Gateway antenna options.

④ H&L Model 570 Single-Mode Fiber-Optic Transceiver can be used for IntelliTeam II Automatic Restoration System applications that do not include IntelliRupter PulseCloser Fault Interrupters. Refer to the nearest S&C Sales Office for more information.

⑤ Suffix "-S3" must be specified when choosing this option. Use only with option suffix "-JB7."

⑥ Select this option when applying S&C voltage sensors below 11.3 kV Phase-to-Phase.

⑦ Radio power is restricted when using control power from three voltage sensors at system voltages of 13.8 kV and lower. Refer to the nearest S&C Sales Office for specific radio limitations.

● Specify the appropriate catalog number suffix based on the frequency band range and application for the radio from the following table. For example, for a 928- to 960-MHz MDS SD9 Radio for Ethernet and Serial application, specify catalog number suffix "-R216CL."

Frequency Band Range, MHz	Application	Suffix to be Added to Catalog Number
820 to 870	Serial	-R216AK
928 to 960		-R216CK
928 to 960, 50-kHz channel		-R216DK
880 to 915		-R216EK
880 to 915, 50-kHz channel		-R216FK
850 to 860 / 926 to 936, transmit low		-R216GK
850 to 860 / 926 to 936, transmit high		-R216HK
820 to 870	Ethernet and Serial	-R216AK
928 to 960		-R216CK
928 to 960, 50-kHz channel		-R216DK
880 to 915		-R216EK
880 to 915, 50-kHz channel		-R216FK
850 to 860 / 926 to 936, transmit low		-R216GK
850 to 860 / 926 to 936, transmit high		-R216HK
820 to 870	9710 Emulation	-R216AM
928 to 960		-R216CM
928 to 960, 50-kHz channel		-R216DM
880 to 915		-R216EM
880 to 915, 50-kHz channel		-R216FM
850 to 860 / 926 to 936, transmit low		-R216GM
850 to 860 / 926 to 936, transmit high		-R216HM

Table 7. Options for Gateway Applications

Item		Suffix to Be Added to Switch Control Catalog Number
Communication protocol	DNP 3.0	-XP0
Communication device (furnished by S&C, requires catalog number suffix "-XR98")	MDS SD9 remote radio	●
Communication device ready for (communication device furnished by customer)	MDS 9810 Radio	-XR02
	MDS 9710A Radio. For new systems	-XR03
	MDS 9710B Radio. For existing systems	-XR04
	MDS 2710D Radio	-XR27
	FreeWave FGR-115RC Radio	-XR30
	Data Remote CDS-9060 CDMA modem	-XR72
	MDS SD9 Remote Radio	-XR188
Factory installation of communication device	Furnished by S&C	-XR98
	Furnished by customer	-XR99

● Specify the appropriate catalog number suffix based on the frequency band range and application for the radio, from the following table. For example, for a 928- to 960-MHz MDS SD9 Radio for Ethernet and serial application, specify catalog number suffix "-XR216CL."

Frequency Band Range, MHz	Application	Suffix to be Added to Catalog Number
820 to 870	Serial	-XR216AK
928 to 960		-XR216CK
928 to 960, 50-kHz channel		-XR216DK
880 to 915		-XR216EK
880 to 915, 50-kHz channel		-XR216FK
850 to 860 / 926 to 936, transmit low		-XR216GK
850 to 860 / 926 to 936, transmit high		-XR216HK
820 to 870	Ethernet and Serial	-XR216AL
928 to 960		-XR216CL
928 to 960, 50-kHz channel		-XR216DL
880 to 915		-XR216EL
880 to 915, 50-kHz channel		-XR216FL
850 to 860 / 926 to 936, transmit low		-XR216GL
850 to 860 / 926 to 936, transmit high		-XR216HL
820 to 870	9710 Emulation	-XR216AM
928 to 960		-XR216CM
928 to 960, 50-kHz channel		-XR216DM
880 to 915		-XR216EM
880 to 915, 50-kHz channel		-XR216FM
850 to 860 / 926 to 936, transmit low		-XR216GM
850 to 860 / 926 to 936, transmit high		-XR216HM

TABLE CONTINUED ►

Table 7. Options for Gateway Applications—Continued

Item		Suffix to Be Added to Switch Control Catalog Number
Antenna connections	N-type connector, bottom mounted. For remote antenna installation	-XS2
	PolyPhaser Surge Suppressor, N-Type connector, bottom mounted. For remote antenna installation	-XS3
	Antenex NMO mounting	-XS4
	PolyPhaser Surge Suppressor, N-type connector, 800-2300 MHz. For dual-band cellular antenna	-XS6
	Two N-type connectors, bottom mounted. Includes suppressor	-XS11
Antenna	900-MHz 5-dB gain antenna. Includes N-type male connector	-XT2
	LoPro transit antenna	-XT5
	Dual-Band LoPro cellular antenna (824-896 and 1850-1990 MHz), 3 dBi	-XT7

Table 8. Accessories

Description	Catalog Number
6802 front panel field retrofit kit. For 5802 Automatic Switch Control	903-002350-03
6802 front panel field retrofit kit with GPS. For 5802 Automatic Switch Control. Does not include antenna or cable①	903-002350-04
6802 front panel field retrofit kit. For 5802 Dual Overhead Switch Control	903-002350-09
6802 front panel field retrofit kit with GPS. For 5802 Dual Overhead Automatic Switch Control. Does not include antenna or cable①	903-002350-10
6803 front panel field retrofit kit. For 5803 Automatic Switch Control	903-002350-05
6803 front panel field retrofit kit with GPS. For 5803 Automatic Switch Control. Does not include antenna or cable①	903-002350-06
Wi-Fi module retrofit kit for 6802/6803 Automatic Switch Control. Pad-Mounted. Does not include antenna	903-002360-01
Pole-mount antenna kit for GPS. Includes surge suppressor, 25-foot (762-cm) cable, mounting bracket, and antenna	903-002344-01
Ethernet switch kit. Includes one Sixnet SLX-5ES-1 and three 7-foot (213-cm) CAT6 cables②	903-002389-01
Two-Port GPS signal-splitter kit. Includes one GPS210 splitter and two 7-foot (213-cm) SMA M/M coaxial cables③	903-002396-01
GPS antenna, surface mount④	007-001615-01
Wi-Fi and GPS antenna, surface mount④	904-002174-02
Spare 24-Vdc, 8-ampere-hour Gates battery	591-000190-01
Spare 36-Vdc, 8-ampere-hour Gates battery. For use with Vista switchgear	591-000190-02
Battery charger. For up to eight 24-Vdc switch control batteries catalog number 591-000190-01	904-000057-01
Battery charger. For up to eight 36-Vdc switch control batteries catalog number 591-000190-02	904-000057-02

Footnotes for this table are on page 13.

TABLE CONTINUED ►

Table 8. Accessories—Continued

Description	Catalog Number
SpeedNet Radio remote antenna kit. Includes omni-directional antenna, pole-mounted antenna arm, and 30-foot (914-cm) coaxial cable with connectors on both ends	903-002132-02
SpeedNet Radio remote antenna kit. Includes omni-directional antenna, pole-mounted antenna arm, and 50-foot (1524-cm) coaxial cable with connectors on both ends	903-002132-03
SpeedNet Radio and cellular remote dual-antenna kit. Includes omni-directional antennas, pole-mounted antenna arm, and two 30-foot (914-cm) coaxial cables with connectors on both ends	903-002172-02
SpeedNet Radio and cellular remote dual-antenna kit. Includes omni-directional antennas, pole-mounted antenna arm, and two 50-foot (1524-cm) coaxial cables with connectors on both ends	903-002172-03
Sensor output tester	906-002168-01
Field Retrofit, GPS, upgrade, 6801 processor board	903-002346-01
iS5 Comm Inc. - iES6-Slim industrial Ethernet switch (fully enclosed), comes with panel mount bracket, low-voltage (Input 9-36 Vdc), LC connector	110-003800-01
SFP 100-Mbps multi-mode LC transceiver 550 m, 850 nm	110-003774-01
SFP 100-Mbps multi-mode LC transceiver 2 km, 1310 nm	110-003774-02
SFP 100-Mbps single-mode LC transceiver 10 km, 1310 nm	110-003774-04
SFP 100-Mbps single-mode LC transceiver 30 km, 1310 nm	110-003774-05
SFP 100-Mbps single-mode LC transceiver 60 km, 1310 nm	110-003774-06
SFP 100-Mbps single-mode LC transceiver 100 km, 1550 nm	110-003774-07
SFP 100-Mbps single-mode LC transceiver 120 km, 1550 nm	110-003774-08
iS5 Comm. Inc. – iES22GF industrial Ethernet switch, High voltage (Input 130-370 Vdc or 90-264 Vac), 8 - 10/100/1000 Base TX RJ45 Ports, 4 - GSFP	110-003777-01
iS5 Comm. Inc. – iES22GF industrial Ethernet switch, Low voltage (Input 9-36 Vdc), 8 - 10/100/1000 Base TX RJ45 Ports, 4 - GSFP	110-003778-01
iS5 Comm. Inc. – iDS3 industrial single port RS232/422/485 to Ethernet serial device server, Low voltage (Input 9-36 Vdc), 1-serial port, 2-10/100 Base TX RJ45 Ports	110-003779-01

① Use GPS antenna, surface mount catalog number 007-001615-01 or pole-mounted antenna kit for GPS catalog number 903-002344-01.

② Sixnet SLX-5ES-1 has five RJ45 10/100 Ethernet ports.

③ Requires surface-mount GPS antenna catalog number 007-001615-01 or pole-mounted antenna kit for GPS catalog number 001-002300-01. May also be used with surface mount Wi-Fi and GPS antenna, catalog number 904-002174-01.

④ Top-mounted surface-mount antennas must be installed by S&C.

Table 9. 5802 and 5803 Four-Layer Front Panel Upgrade Kit with Software Upgrade from IntelliTeam to IntelliTeam II Software①②

Description		Catalog Number
For automatic switch controls manufactured **before** January 1, 2005	Model 5802, used with pad-mounted gear	903-004000-02
	Model 5802, used with Vista switchgear	903-004000-03
	Model 5803, used with pad-mounted gear	903-004000-04
For automatic switch controls manufactured **after** January 1, 2005	Model 5802, used with pad-mounted gear	008-004000-02
	Model 5802, used with Vista switchgear	008-004000-03
	Model 5803, used with pad-mounted gear	008-004000-02

① Only available for automatic switch controls with suffix "-F01" for use with Scada-Mate Switches or Scada-Mate CX Switches, suffix "-F02" for use in Remote Supervisory PME Pad-Mounted Gear, suffix "-F03" for use in Remote Supervisory PMH Pad-Mounted Gear, or suffix "-F04" for use in Remote Supervisory Vista Underground Distribution Switchgear.

② Using the IntelliTeam SG system's IntelliTeam II Automatic Restoration System compatibility mode, 6802 and 6803 Controls can be applied with 5802 and 5803 Controls, respectively, using IntelliTeam II Automatic Restoration System Software Revision 2.43. 5802 and 5803 Controls using older versions of the IntelliTeam II system require a software upgrade. 5802 and 5803 Controls manufactured before January 1, 2005, also require an upgrade to the four-layer front panel; alternately, they can be upgraded to the 6802 and 6803 Control front panels, respectively.

Table 10. 5802 and 5803 Four-Layer Front Panel Upgrade Kit with Software Upgrade from Non-IntelliTeam to IntelliTeam II Software①②

Description		Catalog Number
For automatic switch controls manufactured **before** January 1, 2005	Model 5802, used with pad-mounted gear	903-004001-02
	Model 5802, used with Vista switchgear	903-004001-03
	Model 5803, used with pad-mounted gear	903-004001-04
For automatic switch controls manufactured **after** January 1, 2005	Model 5802, used with pad-mounted gear	008-004001-02
	Model 5802, used with Vista switchgear	008-004001-03
	Model 5803, used with pad-mounted gear	008-004001-02

① Only available for automatic switch controls with suffix "-F01" for use with Scada-Mate Switches or Scada-Mate SD Switches, suffix "-F02" for use in Remote Supervisory PME Pad-Mounted Gear, suffix "-F03" for use in Remote Supervisory PMH Pad-Mounted Gear, or suffix "-F04" for use in Remote Supervisory Vista Underground Distribution Switchgear.

② Using the IntelliTeam SG system's IntelliTeam II Automatic Restoration System compatibility mode, 6802 and 6803 Controls can be applied with 5802 and 5803 Controls, respectively, using IntelliTeam II Automatic Restoration System Software Revision 2.43. 5802 and 5803 Controls using older versions of the IntelliTeam II system require a software upgrade. 5802 and 5803 Controls manufactured before January 1, 2005, also require an upgrade to the four-layer front panel; alternately, they can be upgraded to the 6802 and 6803 Control front panels, respectively.

Table 11. Current Phase Change Harness

Description	Catalog Number
Current phase change harness—Phases ABC to Phases CBA	007-001351-01
Current phase change harness—Phases ABC to Phases BAC	007-001351-02
Current phase change harness—Phases ABC to Phases ACB	007-001351-03
Current phase change harness—Phases ABC to Phases BCA	007-001351-04
Current phase change harness—Phases ABC to Phases CAB	007-001351-05

Table 12. Voltage Phase Change Harness

Description	Catalog Number
Voltage phase change harness—Phases ABC to Phases CBA	007-001352-01
Voltage phase change harness—Phases ABC to Phases BAC	007-001352-02
Voltage phase change harness—Phases ABC to Phases ACB	007-001352-03
Voltage phase change harness—Phases ABC to Phases BCA	007-001352-04
Voltage phase change harness—Phases ABC to Phases CAB	007-001352-05