

DIGITEL[™] ION PUMP CONTROLLERS



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The DIGITEL family of Ion Pump controllers offers the right balance of performance, power and protection.

DIGITEL[™] SPCe | Small Pump Controller

The SPCe is a versatile way to fully operate ion pumps 0.2 – 75 l/s with up to 40 mA (50 watts) of power. An LCD pressure/current/voltage display along with standard serial communications makes the SPCe able to accommodate the needs of basic and advanced users. Nano amp resolution provides gauging capabilities using the appropriate ion pump set-up.

DIGITEL[™] QPC | Quad Pump Controller

Ion pumps 100 I/s and larger required higher currents for starting and higher pressure operation. The QPC supplies up to four ion pumps with 125 mA (125 watts) each. The easy-to-read color touchscreen display simultaneously displays pressure, current, and voltage. Standard serial and standard Ethernet communications along with legacy set-point and analog outputs allow for easy system integration. The QPC fits into any rack at just 3U high and 1/2 rack wide.

DIGITEL[™] MPCe | Multiple Pump Controller

The MPCe allows for high current control of two ion pumps independently or up to four in parallel with 500 mA (1000 watts). At 3U high and a full rack in width, the MPCe is ideal for operating a wide variety of ion pump configurations on any system.

TSPr/NEGr | Remote TSP/NEG Controller

A TSP or NEG can be fully operated from the LCD touchscreen of the QPC or MPCe. They can be fired manually or automatically based on the pressure of either ion pump the controller is monitoring. Timed modes also let the user have full control over exact parameters of operation. A single remote controller can operate up to eight TSP filaments or two NEG pumps.











Ease of Use

Each DIGITEL[™] has a highly visible display. The SPCe has an easy-to-read LCD that displays pressure, current and voltage. The QPC and MPCe are each fully controlled with an intuitive touch panel LCD. Digital resolution down to 1nA is possible depending on pump size and current requirements.





Operator Safety

The integrated SAFECONN high voltage interlock system eliminates electrical shocks and false positive pressure readings. The controller automatically shuts off high voltage when the cable is disconnected from the ion pump or controller end. The system is isolated and guarantees ground, high voltage, and safety connectivity that prevents accidental arcing.



Communications

Serial communications (RS232, RS422, and RS485) are standard on all DIGITEL[™] products. Ethernet protocol for advanced facility and instrumentation communications is available on all units.

DIGITEL[™] Flexibility

The DIGITEL[™] line is flexible enough to control a wide variety of ion pump and TSP/NEG configurations. The QPC and MPCe can operate up to four ion pumps simultaneously or independent

MPC Example Configuration

Four diode ion pumps in *parallel* and Single TSP operation.



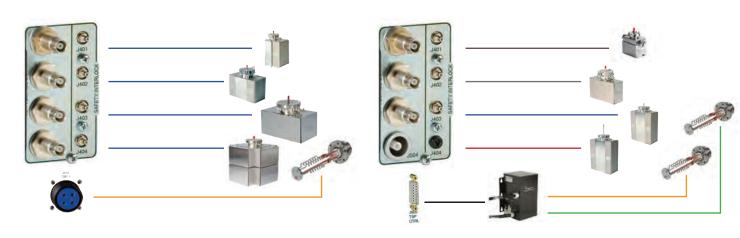
Connectivity

Each DIGITEL[™] has programmable analog and interlock capabilities. This allows for optimal flexibility when integrating with standard or legacy setpoint and analog monitoring systems.

operation of one or two ion pumps, respectively. The MPCe is capable of controlling one or two TSP/NEG cartridges independently.

QPC/MPC Example Configuration

Four independent ion pumps and dual TSP/NEG operation.



DIGITEL ION PUMP CONTROLLERS

SETPOINTS One relay, one TTL Four relay, four TTL Four relay, four TTL COMMUNICATIONS Local/Remote/Full Local/Remote/Full Local/Remote/Full Ethernet (optional) Ethernet (standard) Ethernet (optional) Serial: 232, 422, 485 Serial: 232, 422, 485 Serial: 232, 422, 485 CONFORMITY TO NORMS EN 55011 Class A, IEC 801-2 EN 55011 Class A, IEC 801-2	SPECIFICATIONS	SPCe	QPC	MPCe
Trequency 14862 Hz 50-60 Hz 148-62 Hz OUTPUTPOWER Independent Outputs 1 1.4 1 or 2 Open Circuit Violage +/30007000 vdc programmable +/30007000 vdc programmable +/30007000 vdc programmable Outputs 0.1 or 2 -/5000 r7000 vdc -/5000 r7000 vdc Current (maximum) 50 mA 125 mA 500 mA Motts (Inscrimum) 50 125 1000 Resolution 1 nA 1 nA 0.1 uA HiGH VOITAGE CONNECTIONS One 10KV SHV or Fischer 1.4, 10KV SHV or Fischer 1.4, 10KV SHV or Fischer DISPLAY Incor Pressure, current, voltage, and programmable options Pressure, current, voltage, and programmable options and programmable	INPUT POWER			
OLIPUTPOWERIndependient Outputs11-4I or 2Independient Outputs11-41 or 2Open Circuit Voltage+//30007000 vdc programmable+//30007000 vdc programmable+//30007000 vdc programmableCurrent (maximum)50 mA1251000Wdts (maximum)50 mA1251000Resolution1 nA1 nA0.1 uAHIGH VOLTAGE CONNECTIONSOne 10kV SHV or Fischer1-4, 10kV SHV or Fischer1-4, 10kV SHV or FischerDISPLAYDise Connection01/251000ReadoutsPressure, current, voltage, and programmable optionsond programmable optionsand programmable optionsANALOG OUTPUTSInear, configurableInear, configurableInear, configurableVoltageInear or logarithmic, configurableInear or logarithmic, configurableInear or logarithmic, configurableSETPOINTSOne relay, one TILFour relay, four TILFour relay, four TILCOMMUNICATIONSLacci/Remate/FullLacci/Remate/FullLacci/Remate/FullCOMFORMITY TO NORMSEN 5011 Class A, IEC 801-2EN 5011 Class A, IEC 801-2EN 5011 Class A, IEC 801-2SIZE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, 1/2 rack wideSIZE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, 1/2 rack wideSIZE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, 1/2 rack wideSIZE2U high, 1/4 rack wide3U high, 1/2 rack wideHigh Voltage EnableHigh Voltage Enable	Voltage	90-240 vac or 24 vdc	100-240 volts	90-130 or 200-240 volts
Independent Outputs 1 1-4 1 or 2 Open Circuit Voltage +/30007000 vdc programmable +/30007000 vdc programmable +/5600 or 7000 vdc Current (maximum) 50 mA 125 mA 500 mA Voltas [maximum] 50 mA 125 mA 500 mA Watts [maximum] 50 125 10000 Resolution 1 nA 1 nA 0.1 uA HIGH VOLTAGE CONNECTIONS One 10kV SHV or Fischer 1.4, 10kV SHV or Fischer 1.4, 10kV SHV or Fischer DISPLAY - - - - - Ype ICD Wide VGA Touchscreen Color CDD 1/4 VGA Touchscreen ICD - Voltage Inear, current, voltage, and programmable options -	Frequency	48-62 Hz	50-60 Hz	48-62 Hz
International +/30007000 vdc programmable +/5600 or 7000 vdc Current (moximum) 50 mA 125 mA 500 mA Watts (moximum) 50 mA 125 mA 500 mA Resolution 1 nA 1 nA 0,1 uA HIGH VOLKGE CONNECTIONS One 10kV SHV or Fischer 1-4,10kV SHV or Fischer 1-4,10kV SHV or Fischer DISPLAY C C C C Type LCD Wide VGA Touchscreen Col LCD 1/4 VGA Touchscreen LCD Readouts and programmable options and programmable options and programmable options ANALOG OUTPUTS C C C Voltage Current/Pressure lineor, configurable lineor, configurable lineor, configurable ETFOINTS One relay, con TIL Four relay, four TIL Four relay, four TIL COMMUNICATIONS Local/Remote/Full Local/Remote/Full Local/Remote/Full CONFORMITY TO NORMS EN 8011.23 (ER 01-2 EN 801.3, IEC 801-4, EN 61010-1 EN 801.3, IEC 801-4, EN 61010-1 EXEGUIT 1.5 (3.3) 9.5 (21) 16.8 (37) minimum	OUTPUT POWER			
Current (moximum)S0 mA125 mAS00 mAWots (moximum)501251000Resolution1 nA1 nA0.1 uAHIGH VOLTAGE CONNECTIONSOne 10k/ SHV or Fischer1-4, 10k/ SHV or Fischer1-4, 10k/ SHV or FischerDisPLAYOne 10k/ SHV or Fischer1-4, 10k/ SHV or Fischer1-4, 10k/ SHV or FischerTypeLCDWide VGA Touchscreen Color LCD1/4 VGA Touchscreen LCDReadoutsPressure, current, vallage, and programmable optionsPressure, current, vallage, and programmable optionsPressure, current, vallage, and programmable optionsANALGE OUTPUTSVoltagelinear, configurablelinear, configurablelinear, configurableVoltagelinear, configurablelinear, configurablelinear, configurablelinear, configurableCurrent/Pressurelinear or logarithmic, configurablelinear or logarithmic, configurablelinear, configurableSETFOINTSOne relay, one TILFour relay, four TILFour relay, four TILCOMMUNICATIONSLocal/Remote/FullLocal/Remote/FullLocal/Remote/FullConFORMITY TO NORMSEN 55011 Class A, IEC 801-2EN 55011 Class A, IEC 801-2EN 55011 Class A, IEC 801-2SETE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, full rack wide313 mm (12.3 in.) deep438 mm (17.2 in.) deep438 mm (17.2 in.) deepADDITIONAL FEATURESSAFECONNSAFECONNSAFECONNADTOSTART/AUTORUNHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableHigh P	Independent Outputs	1	1-4	1 or 2
Watts [maximum]S01251000Resolution1 nA1 nA0.1 uAHIGH VOLTAGE CONNECTIONSOne 10kV SHV or Fischer1.4, 10kV SHV or Fischer1.4, 10kV SHV or FischerDISPLAY	Open Circuit Voltage	+/-3000-7000 vdc programmable	+/-3000-7000 vdc programmable	+/-5600 or 7000 vdc
Resolution1 nA1 nA0.1 uAHIGH VOLTAGE CONNECTIONSOne 10kV SHV or Fischer1-4, 10kV SHV or Fischer1-4, 10kV SHV or FischerDISPLAYCCTypeLCDWide VGA Touchscreen Color LCD1/4 VGA Touchscreen LCDReadoutsPressure, current, voltage, and programmable optionsPressure, current, voltage, and programmable optionsPressure, current, voltage, and programmable optionsANALOG OUTPUTSVoltagelinear, configurablelinear, configurablelinear, configurableVoltagelinear, configurablelinear, configurablelinear, configurablelinear, configurableCurrent/Pressurelinear or logarithmic, configurablelinear relay, four TILFour relay, four TILFour relay, four TILCOMMUNICATIONSLocal/Remote/FullLocal/Remote/FullLocal/Remote/FullLocal/Remote/FullCOMMUNICATIONSEN 5011 Class A, IEC 801-2EN 5011 Class A, IEC 801-2EN 5011 Class A, IEC 801-2EN 801-3, IEC 801-4, EN 61010-1EN 801-3, IEC 801-4, EN 61010-1EN 801-3, IEC 801-4, EN 61010-1EN 801-3, IEC 801-4, EN 61010-1WEIGHT, KG (LBS)1.5 (3.3)9.5 [21]16.8 (37) minimumSIZE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, full rack wideADDITIONAL FEATURESSAFECONNSAFECONNSAFECONNADITIONAL FEATURESSAFECONNSAFECONNSAFECONNADITIONAL FEATURESAUTOSTART/AUTORUNAUTOSTART/AUTORUNMin/33XCurrent/AUTORUNAUTOSTART/AUTORUNMin/33<	Current (maximum)	50 mA	125 mA	500 mA
HIGH VOLTAGE CONNECTIONSOne 10kV SHV or Fischer1-4, 10kV SHV or Fischer1-4, 10kV SHV or FischerDISPLAYICDWide VGA Touchscreen Color LCD1/4 VGA Touchscreen LCDTypeICDWide VGA Touchscreen Color LCD1/4 VGA Touchscreen LCDReadoulsPressure, current, voltage, and programmable optionsPressure, current, voltage, and programmable optionsPressure, current, voltage, and programmable optionsANALOC OUTPUTSInear, configurablelinear, configurablelinear, configurableVoltagelinear or logarithmic, configurablelinear or logarithmic, configurablelinear or logarithmic, configurableCurrent/Pressurelinear or logarithmic, configurablelinear or logarithmic, configurablelinear or logarithmic, configurableCommunicationsOne relay, one TILFour relay, four TILFour relay, four TILComMUNICATIONSLocal/Remote/FullLocal/Remote/FullLocal/Remote/FullComPORMITY TO NORMSEN 55011 Class A, IEC 801-2EN 55011 Class A, IEC 801-2EN 55011 Class A, IEC 801-2VEIGHT, KG (IBS)1.5 (3.3)9.5 [21]16.8 [37] minimumSIZE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, full rack wideADDITIONAL FEATURESSAFECONNSAFECONNSAFECONNAAUCOSTART/AUTORUNAUTOSTART/AUTORUNAUTOSTART/AUTORUNHigh Voltage EnableHigh Voltage E	Watts (maximum)	50	125	1000
DISPLAY Description Description Type LCD Wide VGA Touchscreen Color LCD 1/4 VGA Touchscreen LCD Readouts Pressure, current, voltage, and programmable options Pressure, current, voltage, and programmable options Pressure, current, voltage, and programmable options ANALOG OUTPUTS ////////////////////////////////////	Resolution	l nA	l nA	0.1 uA
TypeLCDWide VGA Touchscreen Color LCD1/4 VGA Touchscreen LCDReadoutsPressure, current, voltage, and programmable optionsPressure, current, voltage, and programmable optionsPressure, current, voltage, and programmable optionsANALOG OUTPUTSImear, configurableInnear, configurableInnear, configurableVoltageInnear, configurableInnear, configurableInnear, configurableCurrent/PressureInnear or logarithmic, configurableInnear or logarithmic, configurableSETPOINTSOne relay, one TTLFour relay, four TTLFour relay, four TTLCOMMUNICATIONSLocal/Remote/FullLocal/Remote/FullLocal/Remote/FullCOMFORMITY TO NORMSEN 55011 Class A, IEC 801-2EN 55011 Class A, IEC 801-2EN 55011 Class A, IEC 801-2EN 801-3, IEC 801-4, EN 61010-1EN 801-3, IEC 801-4, EN 61010-1EN 801-3, IEC 801-4, EN 61010-1EN 801-3, IEC 801-4, EN 61010-1WEIGHT, KG (LBS)1.5 (3.3)9.5 (21)16.8 (37) minimumSIZE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, full rack wideADDITIONAL FEATURESSAFECONNSAFECONNSAFECONNAUTOSTART/AUTORUNAUTOSTART/AUTORUNAUTOSTART/AUTORUNAUTOSTART/AUTORUNHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableMini/35XInterRemote TSP/NEG ControlMini/35XXX100-300InterXX	HIGH VOLTAGE CONNECTIONS	One 10kV SHV or Fischer	1-4, 10kV SHV or Fischer	1-4, 10kV SHV or Fischer
ReadoutsPressure, current, voltage, and programmable optionsPressure, current, voltage, and programmable optionsPressure, current, voltage, and programmable optionsANLOG OUTPUTSImage: ConfigurableImear, configurableImear, configurableVoltageImear, configurableImear, configurableImear, configurableCurrent/PressureImear, configurableImear, configurableImear, configurableSETPOINTSOne relay, one TILFour relay, four TILFour relay, four TILCOMMUNICATIONSLocal/Remote/FullLocal/Remote/FullLocal/Remote/FullCommunicationEthernet (optional)Ethernet (standard)Ethernet (optional)Ethernet (optional)Ethernet (standard)Ethernet (standard)Ethernet (standard)EN 55011 Class A, IEC 801-2, EN 55011 Class A, IEC 801-2EN 55011 Class A, IEC 801-2EN 55011 Class A, IEC 801-2WEIGHT, KG (LBS)1.5 (3.3)9.5 (21)16.8 (37) minimumSIZE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, full rack wideSIZESAFECONNSAFECONNSAFECONNADDITIONAL FEATURESSAFECONNSAFECONNAUTOSTART/AUTORUNHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableHigh-Pot CapabilityComment CapabilityComment CapabilityCOMMATIBILITY (I/s)Mini/33XX10-75XXX10-300EN 5XXX	DISPLAY			
Recidoutsand programmable optionsand programmable optionsand programmable optionsANALOG OUTPUTSVoltagelinear, configurablelinear, configurablelinear, configurableCurrent/Pressurelinear or logarithmic, configurablelinear or logarithmic, configurablelinear, configurableSETPOINTSOne relay, one TILFour relay, four TILFour relay, four TILCOMMUNICATIONSLocal/Remote/FullLocal/Remote/FullLocal/Remote/FullCOMMUNICATIONSEthernet (optional)Ethernet (standard)Ethernet (optional)Serial: 232, 422, 485Serial: 232, 422, 485Serial: 232, 422, 485Serial: 232, 422, 485CONFORMITY TO NORMSEN 50511 Closs A, IEC 801-2EN 50511 Closs A, IEC 801-2EN 50511 Closs A, IEC 801-2WEIGHT, KG (LBS)1.5 (3.3)9.5 (21)16.8 (37) minimumSIZE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, full rack wideADDITIONAL FEATURESSAFECONNSAFECONNSAFECONNADITIONAL FEATURESSAFECONNSAFECONNAUTOSTART/AUTORUNHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableMini/33XXX100-300WXXX	Туре	LCD	Wide VGA Touchscreen Color LCD	1/4 VGA Touchscreen LCD
Voltagelinear, configurablelinear, configurablelinear, configurableCurrent/Pressurelinear or logarithmic, configurablelinear or logarithmic, configurablelinear or logarithmic, configurableSETPOINTSOne relay, one TILFour relay, four TILFour relay, four TILCOMMUNICATIONSLocal/Remote/Fulllocal/Remote/Fulllocal/Remote/FullCOMMUNICATIONSEthernet (optional)Ethernet (standard)Ethernet (optional)Ethernet (optional)Ethernet (standard)Ethernet (optional)Ethernet (standard)CONFORMITY TO NORMSEN 55011 Class A, IEC 801-2EN 55011 Class A, IEC 801-2EN 55011 Class A, IEC 801-2CONFORMITY TO NORMSEN 5011 Class A, IEC 801-2EN 5011 Class A, IEC 801-2EN 5011 Class A, IEC 801-2WEIGHT, KG (LBS)1.5 (3.3)9.5 (21)16.8 (37) minimumSIZE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, full rack wideADDITIONAL FEATURESSAFECONNSAFECONNSAFECONNAADTOSTART/AUTORUNAUTOSTART/AUTORUNAUTOSTART/AUTORUNAUTOSTART/AUTORUNHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableMini/3SXXX10-75XXX10-300Io.300Io.300Io.300	Readouts			
Current/Pressurelinear or logarithmic, configurablelinear or logarithmic, configurablelinear or logarithmic, configurableSETPOINTSOne relay, one TTLFour relay, four TTLFour relay, four TTLCOMMUNICATIONSLocal/Remote/FullLocal/Remote/FullLocal/Remote/FullCOMMUNICATIONSLocal/Remote/FullLocal/Remote/FullLocal/Remote/FullCOMMUNICATIONSEthernet (optional)Ethernet (standard)Ethernet (optional)Serial: 232, 422, 485Serial: 232, 422, 485Serial: 232, 422, 485CONFORMITY TO NORMSEN 55011 Class A, IEC 801-2EN 55011 Class A, IEC 801-2EN 55011 Class A, IEC 801-2WEIGHT, KG (LBS)1.5 (3.3)9.5 (21)16.8 (37) minimumSIZE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, full rack wideSIZE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, full rack wideADDITIONAL FEATURESSAFECONNSAFECONNSAFECONNAUTOSTART/AUTORUNAUTOSTART/AUTORUNAUTOSTART/AUTORUNAUTOSTART/AUTORUNHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableMini/3SXXX10-75XXXX100-300	ANALOG OUTPUTS			
SETPOINTSOne relay, one TILFour relay, four TILFour relay, four TILCOMMUNICATIONSLocal/Remote/FullLocal/Remote/FullLocal/Remote/FullEthernet (optional)Ethernet (standard)Ethernet (optional)Serial: 232, 422, 485Serial: 232, 422, 485Serial: 232, 422, 485CONFORMITY TO NORMSEN 55011 Class A, IEC 801-2EN 55011 Class A, IEC 801-2EN 55011 Class A, IEC 801-2EN 801-3, IEC 801-4, EN 61010-1EN 801-3, IEC 801-4, EN 61010-1EN 801-3, IEC 801-4, EN 61010-1EN 801-3, IEC 801-4, EN 61010-1WEIGHT, KG (LBS)1.5 (3.3)9.5 (21)16.8 (37) minimumSIZE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, full rack wideADDITIONAL FEATURESSAFECONNSAFECONNSAFECONNADDITIONAL FEATURESSAFECONNSAFECONNAUTOSTART/AUTORUNHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableHigh-Pot CapabilityEnover-Nordheim CalibrationRemote TSP/NEG ControlMini/3SXXX10-75XXX100-300-XX	Voltage	linear, configurable	linear, configurable	linear, configurable
COMMUNICATIONS Local/Remote/Full Local/Remote/Full Local/Remote/Full COMMUNICATIONS Local/Remote/Full Local/Remote/Full Local/Remote/Full Ethernet (optional) Ethernet (standard) Ethernet (optional) Ethernet (standard) CONFORMITY TO NORMS EN 55011 Class A, IEC 801-2 EN 55011 Class A, IEC 801-2 EN 55011 Class A, IEC 801-2 CONFORMITY TO NORMS EN 55011 Class A, IEC 801-2 EN 5011 Class A, IEC 801-2 EN 55011 Class A, IEC 801-2 WEIGHT, KG (LBS) EN 801-3, IEC 801-4, EN 61010-1 EN 801-3, IEC 801-4, EN 61010-1 EN 801-3, IEC 801-4, EN 61010-1 WEIGHT, KG (LBS) 1.5 (3.3) 9.5 [21) 16.8 (37) minimum SIZE 2U high, 1/4 rack wide 3U high, 1/2 rack wide 3U high, full rack wide ADDITIONAL FEATURES SAFECONN SAFECONN SAFECONN ADDITIONAL FEATURES SAFECONN AUTOSTART/AUTORUN AUTOSTART/AUTORUN Mauto SAFECONN SAFECONN SAFECONN AUTOSTART/AUTORUN GOMPATIBILITY (I/s) High Voltage Enable High Voltage Enable High Voltage Enable Mini/3S X X X	Current/Pressure	linear or logarithmic, configurable	linear or logarithmic, configurable	linear or logarithmic, configurable
Ethernet (optional) Ethernet (standard) Ethernet (optional) Serial: 232, 422, 485 Serial: 232, 422, 485 Serial: 232, 422, 485 CONFORMITY TO NORMS EN 55011 Class A, IEC 801-2 EN 55011 Class A, IEC 801-2 EN 55011 Class A, IEC 801-2 WEIGHT, KG (LBS) EN 801-3, IEC 801-4, EN 61010-1 EN 801-3, IEC 801-4, EN 61010-1 EN 801-3, IEC 801-4, EN 61010-1 WEIGHT, KG (LBS) 1.5 (3.3) 9.5 (21) 16.8 (37) minimum SIZE 2U high, 1/4 rack wide 3U high, 1/2 rack wide 3U high, full rack wide ADDITIONAL FEATURES SAFECONN SAFECONN SAFECONN AUTOSTART/AUTORUN AUTOSTART/AUTORUN AUTOSTART/AUTORUN High Voltage Enable High Voltage Enable High Voltage Enable High-Pot Capability COMPATIBILITY (I/s) X X Nini/3S X X X 10-75 X X X 100-300 Compatibility X X	SETPOINTS	One relay, one TTL	Four relay, four TTL	Four relay, four TTL
Serial: 232, 422, 485 Serial: 232, 422, 485 Serial: 232, 422, 485 CONFORMITY TO NORMS EN 55011 Class A, IEC 801-2 EN 55011 Class A, IEC 801-2 EN 55011 Class A, IEC 801-2 EN 801-3, IEC 801-4, EN 61010-1 WEIGHT, KG (LBS) 1.5 (3.3) 9.5 (21) 16.8 (37) minimum SIZE 2U high, 1/4 rack wide 3U high, 1/2 rack wide 3U high, full rack wide ADDITIONAL FEATURES SAFECONN SAFECONN SAFECONN ADUTIONAL FEATURES SAFECONN SAFECONN SAFECONN COMPATIBILITY (I/s) High Voltage Enable High Voltage Enable High Voltage Enable Mini/3S X X X X 10-75 X X X X	COMMUNICATIONS	Local/Remote/Full	Local/Remote/Full	Local/Remote/Full
CONFORMITY TO NORMS EN 55011 Class A, IEC 801-2 EN 55011 Class A, IEC 801-2 EN 55011 Class A, IEC 801-2 WEIGHT, KG (LBS) EN 801-3, IEC 801-4, EN 61010-1 EN 801-3, IEC 801-4, EN 61010-1 EN 801-3, IEC 801-4, EN 61010-1 WEIGHT, KG (LBS) 1.5 (3.3) 9.5 (21) 16.8 (37) minimum SIZE 2U high, 1/4 rack wide 3U high, 1/2 rack wide 3U high, full rack wide ADDITIONAL FEATURES SAFECONN SAFECONN SAFECONN AUTOSTART/AUTORUN AUTOSTART/AUTORUN AUTOSTART/AUTORUN AUTOSTART/AUTORUN High Voltage Enable High Voltage Enable High Voltage Enable High Voltage Enable Mini/3S X X X X 10-75 X X X X		Ethernet (optional)	Ethernet (standard)	Ethernet (optional)
EN 801-3, IEC 801-4, EN 61010-1 EN 801-3, IEC 801-4, EN 61010-1 EN 801-3, IEC 801-4, EN 61010-1 WEIGHT, KG (LBS) 1.5 (3.3) 9.5 (21) 16.8 (37) minimum SIZE 2U high, 1/4 rack wide 3U high, 1/2 rack wide 3U high, 1/2 rack wide 3U high, full rack wide ADDITIONAL FEATURES SAFECONN SAFECONN SAFECONN SAFECONN AUTOSTART/AUTORUN AUTOSTART/AUTORUN AUTOSTART/AUTORUN AUTOSTART/AUTORUN AUTOSTART/AUTORUN Migh Voltage Enable High Voltage Enable High Voltage Enable High Voltage Enable High Voltage Enable Mini/3S X X X X X 10.75 X X X X		Serial: 232, 422, 485	Serial: 232, 422, 485	Serial: 232, 422, 485
WEIGHT, KG (LBS) 1.5 (3.3) 9.5 (21) 16.8 (37) minimum SIZE 2U high, 1/4 rack wide 3U high, 1/2 rack wide 3U high, full rack wide ADDITIONAL FEATURES SAFECONN 438 mm (17.2 in.) deep 438 mm (17.2 in.) deep ADDITIONAL FEATURES SAFECONN SAFECONN SAFECONN AUTOSTART/AUTORUN AUTOSTART/AUTORUN AUTOSTART/AUTORUN High Voltage Enable High Voltage Enable High Voltage Enable Fowler-Nordheim Calibration Remote TSP/NEG Control Remote TSP/NEG Control Mini/3S X X X 100-300 X X X	CONFORMITY TO NORMS	EN 55011 Class A, IEC 801-2	EN 55011 Class A, IEC 801-2	EN 55011 Class A, IEC 801-2
SIZE2U high, 1/4 rack wide3U high, 1/2 rack wide25.4 (56) maximumSIZE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, full rack wide313 mm (12.3 in.) deep438 mm (17.2 in.) deep438 mm (17.2 in.) deepADDITIONAL FEATURESSAFECONNSAFECONNAUTOSTART/AUTORUNAUTOSTART/AUTORUNAUTOSTART/AUTORUNHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableFowler-Nordheim CalibrationRemote TSP/NEG ControlRemote TSP/NEG ControlHigh-Pot CapabilityMini/3SXXX10-75XXX100-300XX		EN 801-3, IEC 801-4, EN 61010-1	EN 801-3, IEC 801-4, EN 61010-1	EN 801-3, IEC 801-4, EN 61010-1
SIZE2U high, 1/4 rack wide3U high, 1/2 rack wide3U high, full rack wide313 mm (12.3 in.) deep438 mm (17.2 in.) deep438 mm (17.2 in.) deepADDITIONAL FEATURESSAFECONNSAFECONNADUTOSTART/AUTORUNAUTOSTART/AUTORUNAUTOSTART/AUTORUNHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableFowler-Nordheim CalibrationRemote TSP/NEG ControlRemote TSP/NEG ControlMini/3SX10-75XXX100-300ItomsXX	WEIGHT, KG (LBS)	1.5 (3.3)	9.5 (21)	16.8 (37) minimum
ADDITIONAL FEATURES313 mm (12.3 in.) deep438 mm (17.2 in.) deep438 mm (17.2 in.) deepADDITIONAL FEATURESSAFECONNSAFECONNSAFECONNAUTOSTART/AUTORUNAUTOSTART/AUTORUNAUTOSTART/AUTORUNAUTOSTART/AUTORUNMigh Voltage EnableHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableFowler-Nordheim CalibrationRemote TSP/NEG ControlRemote TSP/NEG ControlCOMPATIBILITY (I/s)XXX10-75XXX100-300CompatibilityXX				25.4 (56) maximum
ADDITIONAL FEATURESSAFECONNSAFECONNSAFECONNADDITIONAL FEATURESSAFECONNAUTOSTART/AUTORUNAUTOSTART/AUTORUNAUTOSTART/AUTORUNAUTOSTART/AUTORUNHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableImage: Main Same Same Same Same Same Same Same Same	SIZE	2U high, 1/4 rack wide	3U high, 1/2 rack wide	3U high, full rack wide
AUTOSTART/AUTORUNAUTOSTART/AUTORUNAUTOSTART/AUTORUNHigh Voltage EnableHigh Voltage EnableHigh Voltage EnableFowler-Nordheim CalibrationRemote TSP/NEG ControlRemote TSP/NEG ControlHigh-Pot CapabilityHigh Voltage EnableHigh Voltage EnableMini/3SXImage: Comparison of the term of		313 mm (12.3 in.) deep	438 mm (17.2 in.) deep	438 mm (17.2 in.) deep
High Voltage EnableHigh Voltage EnableHigh Voltage EnableFowler-Nordheim CalibrationRemote TSP/NEG ControlRemote TSP/NEG ControlHigh-Pot CapabilityHigh-Pot CapabilityCOMPATIBILITY (I/s)XMini/3SXXX10-75XXX100-300InternationalXX	ADDITIONAL FEATURES	SAFECONN	SAFECONN	SAFECONN
Fowler-Nordheim CalibrationRemote TSP/NEG ControlRemote TSP/NEG ControlHigh-Pot CapabilityCOMPATIBILITY (I/s)XMini/3SX10-75XX100-300X		AUTOSTART/AUTORUN	AUTOSTART/AUTORUN	AUTOSTART/AUTORUN
High-Pot Capability High-Pot Capability COMPATIBILITY (l/s) Mini/3S X 10-75 X 100-300 X		High Voltage Enable	High Voltage Enable	High Voltage Enable
COMPATIBILITY (I/s) COMPATIBILITY (I/s) COMPATIBILITY (I/s) Mini/3S X COMPATIBILITY (I/s) 10-75 X X 100-300 X X		Fowler-Nordheim Calibration	Remote TSP/NEG Control	Remote TSP/NEG Control
Mini/3S X Control 10-75 X X X 100-300 X X X		High-Pot Capability		
10-75 X X X 100-300 X X X	COMPATIBILITY (I/s)			
100-300 X X	Mini/3S	Х		
	10-75	X	X	X
400-1200 X X	100-300		X	Х
	400-1200		Х	Х

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