



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 l/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

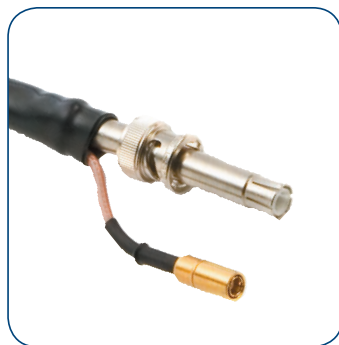
A TSP or NEG can be fully operated from the LCD touchscreen of the QPC or MPCe. They can be fired manually or automatically based on the pressure of either ion pump the controller is monitoring. Timed modes also let the user have full control over exact parameters of operation. A single remote controller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





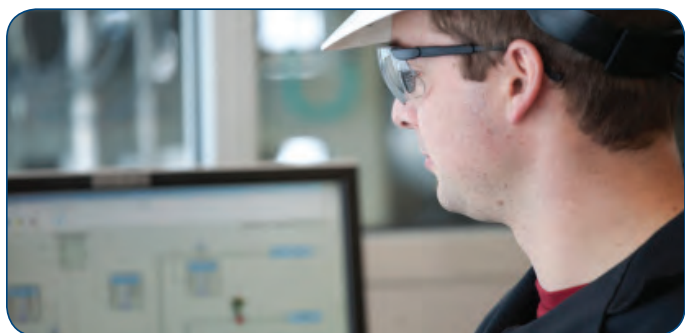
Ease of Use

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.

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.

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

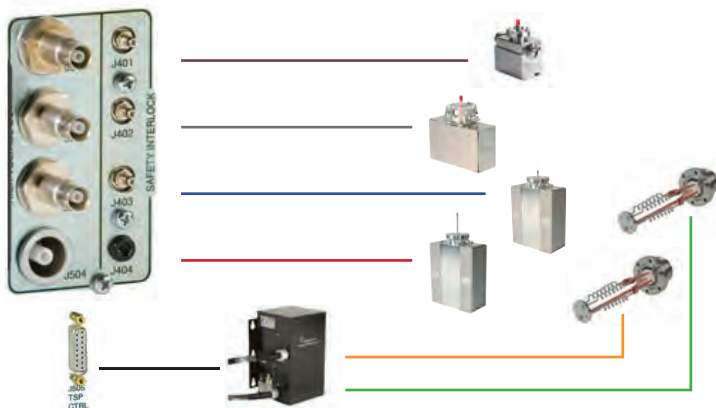
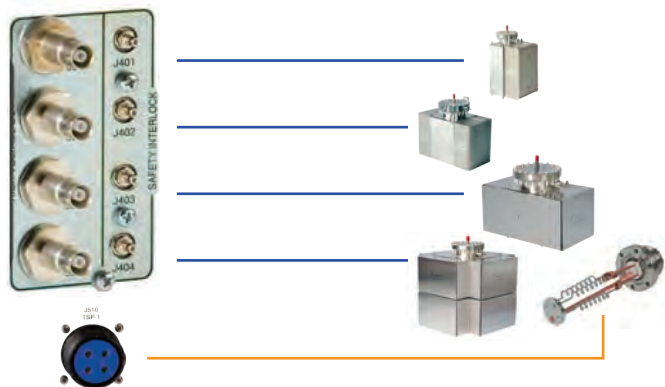
operation of one or two ion pumps, respectively. The MPCe is capable of controlling one or two TSP/NEG cartridges independently.

MPC Example Configuration

Four diode ion pumps in parallel and Single TSP operation.

QPC/MPC Example Configuration

Four independent ion pumps and dual TSP/NEG operation.



DIGITEL ION PUMP CONTROLLERS

SPECIFICATIONS	SPCe	QPC	MPCe
INPUT POWER			
Voltage	90-240 vac or 24 vdc	100-240 volts	90-130 or 200-240 volts
Frequency	48-62 Hz	50-60 Hz	48-62 Hz
OUTPUT POWER			
Independent Outputs	1	1-4	1 or 2
Open Circuit Voltage	+/-3000-7000 vdc programmable	+/-3000-7000 vdc programmable	+/-5600 or 7000 vdc
Current (maximum)	50 mA	125 mA	500 mA
Watts (maximum)	50	125	1000
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			
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			
Voltage	linear, configurable	linear, configurable	linear, configurable
Current/Pressure	linear or logarithmic, configurable	linear or logarithmic, configurable	linear or logarithmic, configurable
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	EN 55011 Class A, IEC 801-2
	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 25.4 (56) maximum
SIZE	2U high, 1/4 rack wide 313 mm (12.3 in.) deep	3U high, 1/2 rack wide 438 mm (17.2 in.) deep	3U high, full rack wide 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
	High-Pot Capability		
COMPATIBILITY (l/s)			
Mini/3S	X		
10-75	X	X	X
100-300		X	X
400-1200		X	X

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