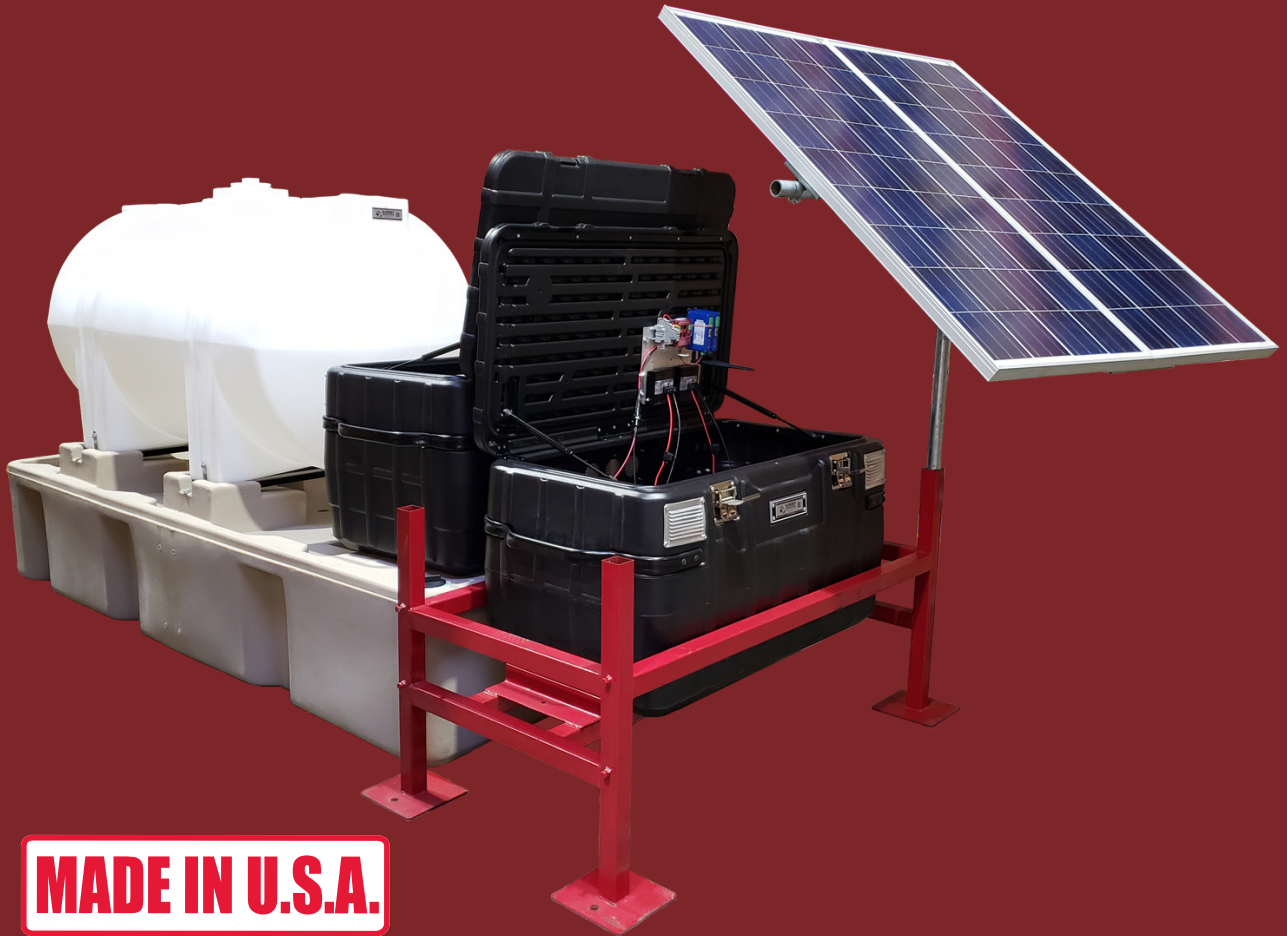


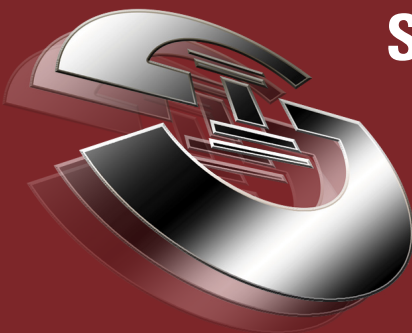
SUMMIT CHEMICAL INJECTION SYSTEMS

Summit 9000 Series

BROCHURE



MADE IN U.S.A.



SUMMIT INTERNATIONAL

a SITCO ENTERPRISES LLC company

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INTRODUCTION

Summit International and associated companies, take pride in decades of experience in manufacturing and supply of oilfield and industrial products to oil & gas companies, rig manufacturers, drilling contractors, casing & service companies, refineries, petrochemical and power generation plants, exploration and production operations, marine industries, engineering & construction companies, and bio-remediation projects for many decades.

We have a proven record servicing domestic and international markets. Our experience and technical knowledge have made us a prime source of supply and service to major companies worldwide. Our close association with manufacturers in various industries in form of "agency" or "preferred account", enables us to offer the most professional service to our clients. Our full range of products and services are available to all companies that are searching for the right solution.



Summit International

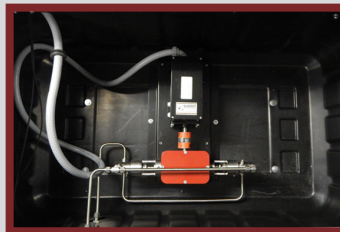
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MODEL: 9000



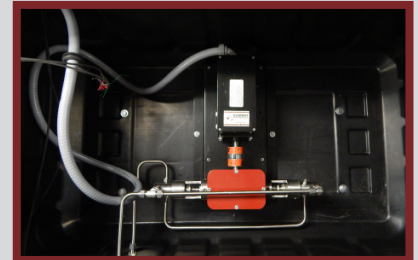
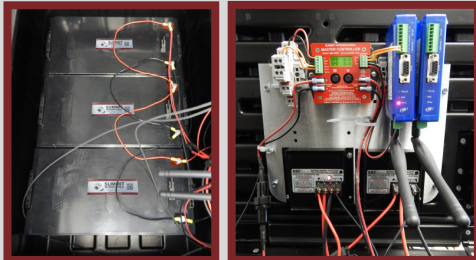
Air-vented heavy duty cargo box with lock protects the batteries, charger, Summit Master Controller Model# SMC-9000, and the radios with RS485/Modbus wireless link



Quick Connect cables make it simple to use with no additional assembly required



Injection pump inside the cargo box. Air vents prevent heat build-up



A versatile and rugged system designed and built for applications in the oil and gas industry suitable for desert or arctic conditions.

Summit Master Controller

SMC-9000



The Summit Master Controller SMC-9000
Innovative, Intelligent, Compact, and
User-Friendly

SMC-9000 CAPABILITIES:

Power Supply Input
10-20VDC

1x Flow Sensor/Stroke sensor
Type = Pulses
To provide feedback for rate control

3 inches square [76 mm]

1x Digital Communications
RS485/Modbus

1x Permissive [Run Switch]
Type = Contact closure
Disables operation if contact open

Configurable as 2nd mA input



1x Built-in Temperature sensor
Configurable to disable operation based on temperature

1x Analog Input
Type = 4-20mA
Configurable as tank level or production Flow meter input for ratiometric injection [pacing]

1x Analog Output
Type = 4-20mA
To control variable speed pumps

1x Pump Control Output
On/off control
20A fused

Pump Control:

- Field selectable for Timer or Controller mode.

Timer Mode:

- Field selectable Cycles per minute and On times

Control Mode:

- Setpoint entry in flow units [e.g. gpd]
- **Solar pumps: pump strokes are internally sensed and used for control**
- Pneumatic pump [pulse output] and Electric pump [mA output] support
- Convenient field calibration using sight glass.

Standard Features:

- The mA inputs may be configured as:
- Level monitor: calculates gallons, % fill, and mass
 - Pressure monitor: calculates line pressure in psi
 - Pacing input: Production Flow meter input for ratiometric control

Modbus/RS485: Connect with a radio for wireless operation

Low Voltage and High Current: alarms/pump shutdown

High temperature limit: if enabled, the pump is disabled when the temperature exceeds a settable high limit.

SMC-9000 DESCRIPTION:

The SMC-9000 is a chemical injection pump controller with the following capabilities:

- Maintains a user settable chemical injection flow rate
- Field selectable for the following types of pumps:
 - Solar pumps: On/Off Control with auto stroke sensing
 - Pneumatic pumps: pulse control
 - Electric pumps: controls via a 4-20 mA output
- Tank level monitor. Displays depth, volume, volume %, mass
- Pressure monitor
- Pacing input capability: determines the chemical injection flow rate based on an External Production Flowmeter input and/or Analyzer input
- Built-in temperature sensor to automatically enable/disable pump control
- Modbus via RS485 or wireless communications
- Run Switch input to enable/disable pump control

SMC-9000 SPECIFICATIONS:

Model SMC-9000 is suitable for Hazardous Locations Class 1, Division 2, Groups A, B, C, D, T5, and ordinary locations.

Conforms to UL STD 61010-1 & 12.12.01

Certified to CSA STD C22.2 Nos. 61010-1 & 213

ETL Control # is 4011082

Specification differences and warnings applicable to each model type will be indicated below as appropriate.

SMC-9000:

WARNING: EXPLOSION HAZARD

DO NOT REMOVE OR REPLACE FUSES UNLESS POWER HAS BEEN DISCONNECTED OR THE AREA IS KNOWN TO BE FREE OF IGNITIBLE CONCENTRATIONS OF FLAMMABLE GASES OR VAPORS.

DO NOT DISCONNECT POWER INPUT OR PUMP CONTROL OUTPUT WHILE THE CIRCUIT IS LIVE OR UNLESS THE AREA IS KNOWN TO BE FREE OF IGNITIBLE CONCENTRATIONS.

USER INTERFACE

Display: 2 line x 8 characted LCD with backlight
User entry: 2 push button switches

PUMP CONTROL

Solid State: Pump control. Maximum 10 amps max. DC

ANALOG INPUTS

Input #1 Voltage or mA input. User configurable for:

- Tank level monitor with optional pressure sensor
- Analyzer input to monitor H₂S

Input #2 Voltage or mA input. User configurable for:

- Pressure monitor with optional pressure sensor
- Production Flowmeter input to automatically adjust chemical injection to match production flow
- RUN switch input to enable / disable pump control

ANALOG OUTPUTS

4-20 mA Electric pump control

DIGITAL INPUT

Flowmeter input: An external flowmeter may be connected and configured to maintain a desired flowrate. Max pulse frequency: 300 Hz

COMMUNICATIONS

Protocol: Modbus RTU

Parameters: Baud rate - field selectable for 9600, 19,200, 38,400

Parity - field selectable for None, Odd, Even 8 data bits, 1 stop bit

Physical connection RS-485 2 wired. Optional Radio for wireless communications.

Warning: the RS485 terminals labelled D+ and D- should not be connected to any power source.

They are intended to be connected only to RS 485 compatible devices. Connecting them to voltages greater than 5DVC will result in damage to unit.

ELECTRICAL RATINGS

Voltage input: 12 - 24 VDC maximum.

Pump output: Solar pumps are controlled by switching the incoming supply voltage to the output pump terminals via an internal solid state relay. The terminals are field connected to the solar pump. Maximum intended load is 10 Amps.

Pneumatic pumps are controlled by switching the incoming supply voltage to the output pump terminals via an internal solid state relay. The terminals are field connected to a solenoid that controls the pump's air supply. Maximum intended load in 10 Amps.



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Fuse Protection: Model SMC-9000 [C1 D2 Locations] requires an external current limiting device that meets Class 1, Division 2 specifications. The maximum intended load is 10 Amps. An appropriate 20 Amp time delay fuse may be used to allow for in-rush currents. It is the user's responsibility to provide and install the current limiting device.

[Ordinary Locations] has a built-in 20 Amp automotive grade fuse and a power switch.
Replacement fuse: Cooper Bussman part number BK/ATC-20 or equivalent.

ENVIRONMENTAL

-40 to + 60°C



ABOUT US

Summit International, an American based company, is a manufacturer and supplier of quality oilfield and industrial products. Our company has proudly provided products and services to oil & gas companies, rig manufacturers, drilling contractors, casing & service companies, refineries, petrochemical and power generation plants, exploration and production operations, marine industries, engineering & construction companies, and bio-remediation projects for many decades.

Summit **FR** Work Apparel



Summit Vault™ Chemical Injection Systems and Summit Chemicals



Summit Oilfield Lubes/Seals and WHM Lubrication Systems



Oilfield & Refineries Tools, Equipment, & Technologies



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Our decades of experience in oilfield and industrial supply and services is available to our valued customers and prospective clients worldwide. We welcome the opportunity to be of service on all your requirements.



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