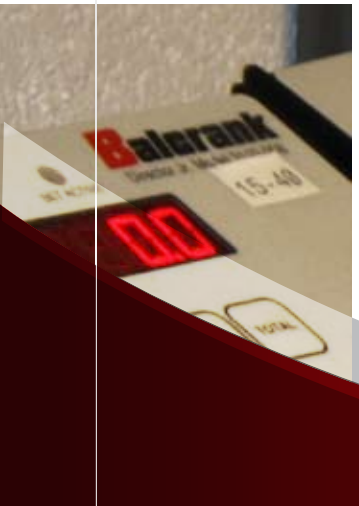
Balcrank

Fluid Dispensing Systems

FLUID INVENTORY CONTROL



FEATURES Central (CCS):

- Wirelessly control and manages up to 8 fluids and 48 handles
- Easy entry of authorized PIN codes and job information on the Central Dispense Keypad
- Fast completion of jobs
- Built-in ticket printer produces a detailed written record for each job
- Allows for future expansion of the system

fusion SYSTEM SPECIFICATIONS

fusion Central	
Wireless Keypad	1
Wireless Metered Control Handles	1 – 48
Number of Fluids	1 – 8
Serial Printer Port	1
User IDs	1 – 50

MODELS AVAILABLE

3110-012 Central Dispense Keypad
3331-018* Handle for petroleum based fluids
3331-019* Handle for water based solutions, brake fluid

*order lance separately

LANCE AVAILABLE

3332-067 Flex, auto-lock
3332-066 Rigid, auto-lock
3332-083 Rigid, High Flow Semi-automatic
3332-084 Flex, High Flow Semi-automatic

fusion WIRELESS CONTROL HANDLE SPECIFICAITONS

Minimum and Maximum Flow	5 – 10 GPM
Maximum Operating Pressure	1000 PSI
Meter Accuracy	+/- 0.5%
LCD Display	5 char; 10mm H x 5mm W
Unit of Measurement	Quarts, Liters, Pints, and Gallons
Inlet/Outlet Connection	½ NPT (order lance separately)

fusion CONSOLE / KEYPAD SPECIFICATIONS

Supervisor Accounts	1
Supervisory Authority	Initialization, Configuration, Communication, & Reporting
User IDs	1 – 250
Operator Authority	Dispense Orders
Tanks Calibration	Quarts, Liters, Pints, and Gallons
CPU	TI MSP430 8-bit
Communications – USA	2-way 902-928MHz Frequency hopping spread spectrum**
Power requirement	120 VAC, 60 Hz
Operating Temperature range	14 °F (-10 °C) to 140 °F (60 °C) (Indoor usage only)

fusion control handles are compatible with diesel fuel and may be sold and used for diesel dispensing.

**fusion systems may not work with cordless phones, or other electronic devices within the same frequency range.

FEATURES DISTRIBUTED CONTROL SYSTEM (DCS):

- Increase system capacity to 16 fluids and 250 dispense points
- Add capacity at any time
- fusion Central handles are building blocks of the fusion DCS
- Generate reports by product, operator, or customer
- Monitor inventory levels
- Two separate security levels
- Optional external printer for job tickets

fusion SYSTEM SPECIFICATIONS

fusion DCS, Distributed Control System	
Wireless Master Keypad	1
Dispense Keypad	1 – 36
Wireless Metered Control Handles	1 – 250
Number of Fluids	1 – 16
Serial Printer Port	1

MODELS AVAILABLE

3110-013 Master Keypad
3110-014 Dispense Keypad
3331-018* Handle for petroleum based fluids
3331-019* Handle for water based solutions, brake fluid
3120-055 Remote antenna with 17' cable
3120-056 Remote antenna with 30' cable
3120-057 Antenna Splitter
3120-059 50' RS 232 Cable
3120-060 100' RS 232 Cable
3120-061 Optional External Printer with cable

*order lance separately

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FEATURES

- Capacity: Up to 16 fluids dispatched to a maximum 384 dispense points
- Electronic queuing of up to 900 dispenses from a PC
- User-friendly PC data interface with reporting and tank monitoring capabilities
- Job ticket printer, available with keypad, clearly reports all dispensing data
- PIN identification for up to 999 operators with separate management passwords
- Monitors and controls up to 16 tanks, 12 with sensor probes
- Dispenses in quarts, pints, liters, or gallons
- Totalizes tank levels in gallons or liters
- Simultaneous dispenses, one per zone or keypad
- Easy installation and flexible configuration for today's shop and for tomorrow's expansion
- Accurate dispense measurements - 0.5 to 8.0 GPM - ±5%
- Large LED display - better than ready lights
- Operated by low voltage dc power

3110-011

INSTALLATION CABLE

Three types of installation cable for Spectrum 1000 are available: Main Input/Output, Meter Valve, and Signal. Custom bundled wires reduce installation time. Factory cable required for warranty.

Prefix	50 ft..	100 ft.	150 ft.	250 ft.
3124	-050	-100	-150	-250
3126	-050	-100	-150	-250
3127	-050	-100	-150	-250

3124-XXX Main I/O Cable
3126-XXX Meter Valve Cable
3127-XXX Signal Cable*

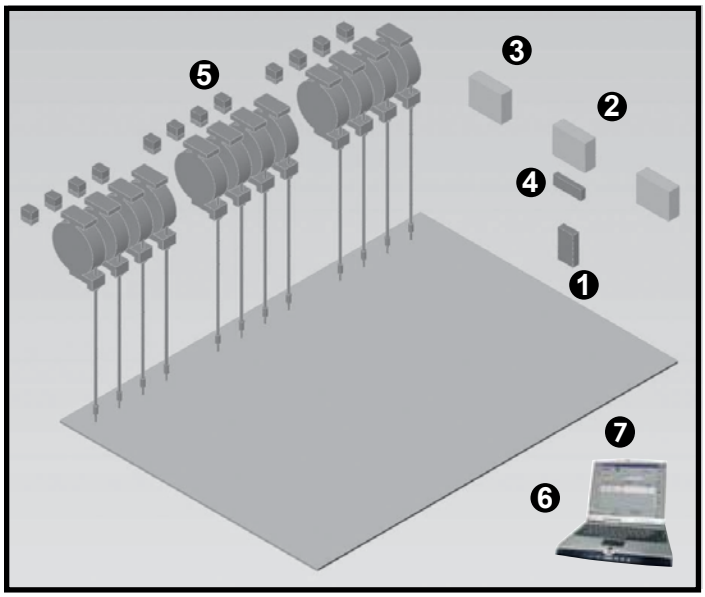
* Signal Cable is also used for Tank Guardian p. 88

1 3110-011 Keypad Fluid control console for system zone. Pint, quart, liter, or gallon units of measure are program selectable. By means of a few simple inputs the operator can be recognized by the keypad, select the product to be dispensed, and preset the quantity to be dispensed. Optional ticket printer clearly reports all dispensing data. Keypad can control up to a maximum 12 dispense points per zone using two expansion power units.

2 Power Unit Included with Spectrum keypads, the Power Unit supplies low voltage electricity to all system components. All electrical connections of the system are located on the large and sturdy housing of the unit to simplify and speed up the installation procedure. The Power Unit can directly control up to 4 reels. Attaches to 110 VAC source power.

3 3120-046 Expansion Power Unit. An optional component, the Expansion Power Unit is connected to the main Power unit. It controls 4 additional reels by means of the same keypad. A maximum of two Expansion Power Units can be connected to the main PU increasing the maximum number of reels controlled by the same keypad to 12.

DISPENSE ZONE WITH MAXIMUM EQUIPMMENT



4 3120-044 LED Remote Display Clear and back-lighted 4" digits for high precision and convenient dispensing even away from the keypad. Blinking display alerts operator when fluid has been enabled for dispensing. On-going display of the batch total during dispense. Order one LED Remote Display per zone.

5 3120-045 Meter Valve Unit This unit takes the place of the impulse meter, fluid solenoid valve, and y-strainer. With this one unit, installation is simplified because system has fewer components. Install one Meter Valve Unit per reel. Order 3120-050 for WWF.

6 3120-047 PC Interface Software User-friendly and developed for the Windows XP environment. Software enables the activation of any dispenser from the PC; optimizes printing output; applies filters and/or orders the output of the operations performed; organizes and prints reports relevant to products, operators, or jobs. Performs tank level management; updates and displays levels of each tank; warns manager of low level conditions. Order one per system.

7 3120-049 Power Cord A cord to conduct power to the Spectrum 1000. 6 feet in length. 13 Amps at 125V. 1625 Watts

TANK GUARDIAN

The Tank Guardian is used for real time tank monitoring on the Spectrum 1000 FIC system. Information can be found on page 86

FEATURES

- Spectrum 100™ Capacity: up to 4 fluids to 16 stations, 2 fluids to 32 stations, or 1 fluid to 64 stations
- Electronic queuing of up to five dispenses per fluid
- Automated priority assignment of dispense in the queue
- Optional job ticket printer capable of printing a record of each transaction, as well as daily and monthly historic dispense-log reports
- Self-test diagnostic procedure at each power-up of the system
- PIN identification of up to 32 operators with separate protected ID for up to 5 program management functions
- Tank level management including current tank level, tank capacity, and tank low-level alert
- Small console footprint: 7" L x 5" W x 1-⅜" H
- Input power 110 volt AC supplies 24 volt DC output to power system components
- Fluid measurement: pints, quarts, gallons, or liters
- Service fluids:
  motor oils, synthetics, ATF, gear oil, anti-freeze
- Pre programmed and tested before leaving the factory

MODEL AVAILABLE

3110-006P Pre programmed Spectrum 100™ Queuing Console

832057 WIRE PREP KIT

Wire Prep Kit: Assists installers in providing premium quality wiring hook-ups for Spectrum 100. Kit includes cable jacket remover, wire stripper, and pin crimper. Ferrules for use on Spectrum cable are also included.

INSTALLATION CABLE FOR SPECTRUM 100

Three types of installation cable are available:
Communication/Power, Solenoid Valve, and Impulse Meter.
Custom bundled wires reduce installation time.

3121-XXX	Communication Power Cable
3122-XXX	Impulse Meter Cable
3123-XXX	Solenoid Valve Cable

Prefix	50 ft.	100 ft.	150 ft.	200 ft.	250 ft.	500 ft.	1000 ft.
3121	-050	-100	-150	-200	-250	-500	-000
3122	-050	-100	-150	-200	-250	-500	-000
3123	-050	-100	-150	-200	-250	-500	-000

Service bulletin SB3039

3120-030 - Smart Controller

Input/output communication module required to provide distributed control and communication to up to four air or fluid solenoids using the Spectrum™ Queuing Consoles. Wall or ceiling mounted near pumps and hose reels.

3120-035 - Ticket Printer

Small desktop ticket printer uses standard 2.2" paper tape. Locate adjacent to the console to print data reports directly from the queuing console. Includes signal cable, power adapter, and cord for 110 VAC outlet. For use with Spectrum™ 100.

3120-039 - Printer Extension Cord

250 Ft. length cable connects communications port from Model 3120-035 Ticket Printer to Model 3110-006 Queuing Console, allowing remote viewing of printer reports. Up to two extensions may be used in series to provide printer operating distance up to 500 feet.

3120-034 - Spectrum Impulse Meter

In-line meter measures dispensed fluid and generates a digital pulse signal used by the console to determine pumped fluid quantities. Wiring connects directly to the console. 1,000 PSI pressure rating, ½" NPT ports, measuring accuracy +/- 0.5%. Enhanced accuracy available by custom calibration during installation. Specify one per pump.

3120-032 - Fluid Solenoid

Stops the flow of fluids instantly at the preset quantity. Pressure rating 1500 PSI; port thread size ½" NPT(F); 24 Volt DC power. Order one per dispensing reel/handle.

3120-033 - Air Solenoid

Provides for the remote shutdown of dispensing pumps from the fluid control console. Pressure rating 200 PSI; port thread size ⅜" NPT(F); 24 Volt DC power. Order one per controlled pump.

3120-031 - Ready Light

Alerts the bay technician when fluid batch is available for dispensing. Bright green light is powered and operated through the Smart Controller. Ready light can be installed in ½" hole in arm of both Signature and Premium Series hose reels. For use with Spectrum™ 100 system. (24 VDC)

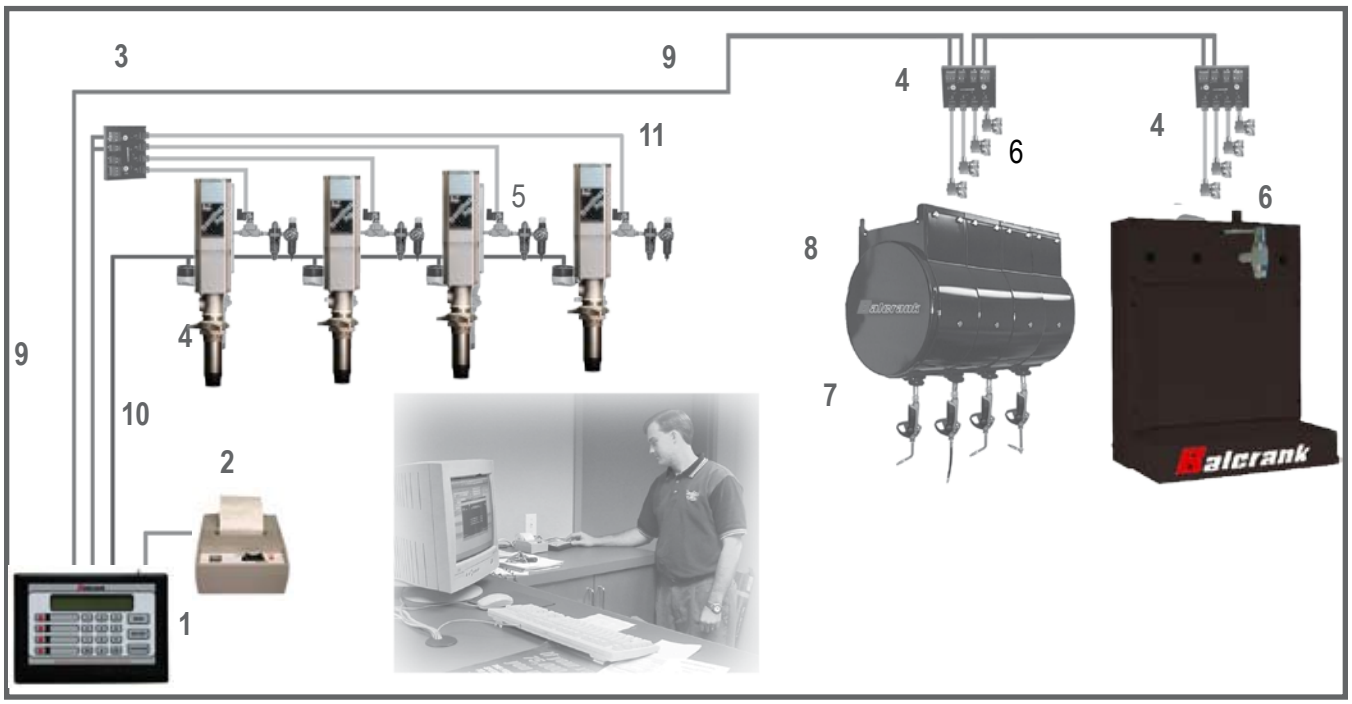
3120-051 - Y-Strainer - ½"

3120-010 - Y-Strainer - ¾"

3120-040 - Y-Strainer - 1"

For use in the fluid line prior to fluid solenoids to assure reliable solenoid valve operation. Filter element is easily cleaned. Order one per dispensing station. 1000 PSI Water Pressure @ 100 °F

Typical Spectrum SYSTEM Layout - Four Fluids to Two Stations



SYSTEM COMPONENTS

1. Spectrum 100™ Queuing Console
2. Printer
3. Smart Controller
4. Universal Impulse Meter
5. Air Solenoid Valve
6. Fluid Solenoid
7. Ready Light
8. Y-Strainer
9. Communication Power Cable
10. Impulse Meter Cable
11. Solenoid Cable

TANK LEVEL MONITORING

4520-010 Tank Guardian Monitors the fluid level of tanks by detecting the static pressure generated by the fluid height. A tube is inserted in the tank and the fluid level or volume is displayed on the Tank Guardian screen. Displays in gallons or liters. Tank Guardian can be used as a stand alone monitoring system or with any of Balcrank's FIC systems.

Tank Guardian Software Multi Tank -4, -8, and -12. This software interface enables the user to connect up to 12 Tank Guardian level gauges. It saves historical tank level records according to time interval, level change, and volume change. With the recorded data, a diagram can be displayed showing the historical tank level records. High and low level prompts are included in the display.

4520-011	Multi Tank 4
4520-012	Multi Tank 8
4520-013	Multi Tank 12

FEATURES

- Capacity: 1 fluid to 10 stations
- Large LED information display
- Packaged in compact, attractive cabinet
- Totalizing feature for ease of fluid inventory record-keeping
- Input power 110 volt AC supplies 24 volt AC output to power system components
- Fluid measurement: pints, quarts, gallons, or liters
- Service fluids: motor oils, synthetics, ATF, gear oil, anti-freeze

Service bulletin SB3045

MODEL AVAILABLE

3110-008 Director Jr. FIC Console

SYSTEM COMPONENTS

Impulse Meters

3120-005 - Liters
3120-006 - Pints
3120-007 - Quarts
3120-008 - Gallons
3120-016 - Quarts, Coolant*

Service bulletin SB3003.

Impulse meters convert fluid movement into a pulse count signal. Order one per pump. Select meters to match the unit of measure desired for the installed system. For use in 12V, 24V, and 120V systems.
*This is the only model available for coolant.

Y STRAINER

3120-051 - Y-Strainer - ½"
3120-010 - Y-Strainer - ¾"
3120-040 - Y-Strainer - 1"

For use in the fluid line prior to fluid solenoids to assure reliable solenoid valve operation. 1000 PSI water pressure @ 100 °F Filter element is easily cleaned. Order one per dispensing station.

3120-011 Air Solenoid Valve

Provides for the remote shutdown of dispensing pumps from the fluid control console. Pressure rating 200 PSI; port thread size ⅜" NPT(F); 24 Volt AC power. Order one per controlled pump.

3120-012 Fluid Solenoid Valve

Stops the flow of fluids instantly at the preset quantity. Pressure rating 1500 PSI; port thread size ½" NPT(F); 24 Volt AC power. Order one per dispensing reel/handle.

3120-031 Ready Light

Alerts the bay technician when fluid batch is available for dispensing. Bright green light is powered and operated through the Smart Controller. Ready light can be installed in ½" hole in arm of both Signature and Premium Series hose reels. For use with Spectrum™ 100 system. (24 VDC)

FEATURES

- Prevents fluid spills during non-working hours by using a built in timer to turn off air supply to all pumps at a predetermined time each day
- Allows for controlled dispensing of fluids
- Capable of preventing fluid theft by using switches to enable or disable up to six pumps
- Master key needed to turn system on
- Ideally suited to improve existing FIC systems that have been installed without the protection of air solenoids
- 6' cable to run to junction box
- Small Console footprint: 6.5" L x 5" W x 3" H
- Patent applied for

MODEL AVAILABLE

3110-009 Pump Sentinel Console

SYSTEM SPECIFICATIONS

Power Required. . . . . 120 VAC, 60/50 Hz, 50 Watts
Control Capacity . . . . . 6 Products
Operating Temperature. . . . . 0 °F -140 °F (-17 °C - 60 °C)
Solenoid Rating . . . . . 24 VDC, 5 Watts Max.
Dimensions . . . . . 3" H x 6.5" W x 5" D
Cable Length. . . . . 6 feet

Air Solenoid . . . . . 3120-033 (sold separately) Provides for the remote shutdown of dispensing pumps from the pump sentinel. Pressure rating 200 PSI; port thread size ⅜" NPT(F); 24 Volt DC power. Order one per controlled pump.

No. 18 AWG wire is recommended for all runs less than 400 feet. For runs from 400 to 625 feet, use wire no. 16 AWG or larger. Normally the 24 VAC wiring can be run around the overhead structure of the building without using conduit.

Service bulletin SB3048