Fluid Inventory Control Product Selection Matrix

FEATURES	DIRECTOR JR.	FUSION 2.4 CCS	FUSION 2.4 DCS	SYNERGY	TM CONTROL
Max. number of dispense points	10	30	250	255	
Max. number of fluids	1	8	16	Unlimited	4
Fluid names		✓	✓	✓	
Number of keypads	1	1	36	Unlimited	
Job number validation			✓	✓	
Job numbers		✓	✓	✓	
Simultaneous keypad operation			✓	✓	
Simultaneous dispense		✓	✓	✓	
Max. number of tanks		8	16	Unlimited	4
Calculated tank declining balance		✓	✓	✓	
Real-time tank monitoring				✓	
Tank report over e-mail			✓	✓	
PIN code validation		✓	✓	✓	
Operation PIN codes		✓	✓	✓	
Max. number of PINs		50	250	Unlimited	
Extensive user permission configuration				✓	
Preset volumes	✓	✓	✓	✓	
Hose Reel ID	✓	✓	✓	✓	
Operator names		✓	✓	✓	
Dispense from keypads	✓	✓	✓	✓	
Dispense from PC				✓	
Client / Network installer			✓	✓	
Max. number of transaction history		1,200	Unlimited	Unlimited	
Print reports		✓	✓	✓	
Print receipt		✓		Local / Network	
Custom reports			✓	✓	
Bar Code / Card reader / Dallas Key				✓	
Wireless		✓	✓		

Overview

Director Jr. manages 1 fluid for up to 10 dispense points. Simple, easy to install and use, the Director Jr. has been in use since 1987. Typical customers include small garages, dealerships, and small equipment service.

MODEL AVAILABLE	
❑ **3110-031**	Director Jr Console V DC

COMPONENT TECHNICAL DATA	
Function	Monitor and control fluid dispense
Requirements & Limitations	non-shielded (for use with solenoid) shielded (for use with impulse meter) 18 gauge wire up to 400' 16 gauge wire 400'-600'
Power	Input -110 VAC - Output - 24 V DC

Director Jr. Description

1.1. The Director Jr. is a console designed to monitor and control fluid dispenses in a workshop from a single central location

1.2. The Director Jr. will also manage a solenoid valve to control the air powering the pump.

1.3. 1 fluid to 10 stations.

1.4. Fluid measurement in pints, quarts, gallons, or liters.

1.5. Service fluids: motor oils, synthetics, ATF, gear oils, and Anti-freeze (Glycol).

1.6. Totalizing feature for ease of fluid inventory record-keeping.

1.7. Large LED information display.

Contact Balcrank customer service for V AC units.

Director Jr. Specifications:

2.1. All Director Jr. consoles will monitor and control a single fluid dispense

2.2. All Director Jr. consoles will have 18 gauge wire up to 400' and non-shielded 16 gauge wire from 400' to 600'

2.3. All Director Jr. consoles will have 110 VAC power input and 24 VDC power output

2.4. All Director Jr. consoles will require the use of Balcrank air solenoid valves, fluid solenoid valves and impulse meter 3120-114 to complete a Director Jr. system.

Warranty

3.1. The Director Jr. components will have a 1-year replacement only warranty (defects in materials and workmanship only).

Fluid Inventory Control - Fusion 2.4 CCS

Overview

- Wirelessly controls and manages up to 8 fluids and 30 dispense locations.
- Easy/fast entry of authorized PIN codes and job information on a Central Dispense Keypad.
- Easy dispense and fast completion of work order.
- Built in ticket printer produces a detailed written record for each work order dispensed.
- Allows for future expansion of fluids and/or dispense locations.
- Wireless fusion 2.4 control handles are the building blocks of both the fusion 2.4 CCS & DCS systems.

MODEL AVAILABLE	
❑ **3110-026**	Central Control Keypad

Component Technical Data	
Function	Wirelessly monitor and control fluid dispense
Requirements & Limitations	2-way 2.4 GHz radio communication Tank measurements are; quarts, liters, Pints, and gallons Operating Temp.: 14 °F to 140 °F (-10 °C to 60 °C) (Indoor usage only) fusion 2.4 systems may not work with cordless phones, or other electronic devices operating within the same frequency range
Power	Input-110 VAC, 50/60 Hz

Description:

- Wirelessly controls and manages up to 8 fluids and 30 dispense locations.
- Easy/fast entry of authorized PIN codes and job information on the Central Control Keypad.
- Easy dispense and fast completion of work order.
- Built in ticket printer produces a detailed written record for each work order dispensed.
- Allows for future expansion of fluids and/or dispense locations.
- Wireless fusion 2.4 control handles are the building blocks of both the fusion 2.4 CCS & DCS systems.

Specifications

2.1. Keypad will utilize communication in a 2-way 2.4 GHz frequency hopping spread spectrum
2.2. Keypad will measure in quarts, liters, pints, and gallons
2.3. Keypad will be 110 VAC, 60 Hz
2.4. Keypad will have an operating temperature range of 14ºF to 140ºF (-10ºC to 60ºC) (indoor usage only)
2.5. Control handle will have a fluid inlet port of ½" NPT (F)
2.6. Control handle will have a max flow rate of 10 Gal/m (38 l/min)
2.7. Control handle will have a max operating pressure of 1,000 psi (70 bar)
2.8. Control handle will have a measuring accuracy of +/- 0.5%

Materials

3.1. The wetted materials will consist of Aluminum, acetal, Steel, Zinc-plated Steel, and Buna-N™

Warranty

4.1. The Keypad will have a 1-year parts, labor, and mileage warranty (defects in materials and workmanship only).
4.2. Handle will have a 1-year parts, labor, and mileage warranty (defects in materials and workmanship only).

Overview

- Wirelessly controls and manages up to 16 fluids, 250 dispense locations, and 36 keypads.
- Add fluid and/or dispense capacity at any time.
- Easy/fast entry of authorized PIN codes and job information on a Wireless Dispense Keypad.
- Easy dispense and fast completion of work order.
- Generate reports by product, by vehicle, by work order, or by technician.
- Monitor inventory levels from your PC.
- Operator and manager security levels.

MODELS AVAILABLE	
❑ **3110-027**	Master Keypad
❑ **3110-028**	Dispense Keypad
❑ **3110-029**	Dispense Keypad w/Built in Printer

Component Technical Data	
Function	Wirelessly monitor and control fluid dispense
Requirements & Limitations	2-way 2.4 Ghz radio communication Tank measurements are; quarts, liters, pints, and gallons Operating Temp.: 14 °F to 140 °F (-10 °C to 60 °C) (Indoor usage only) fusion 2.4 systems may not work with cordless phones, or other electronic devices operating within the same frequency range
Power	Input-110 VAC, 50/60 Hz

Description:

1.1. Wirelessly controls and manages up to 16 fluids, 250 dispense locations, and 36 keypads.
1.2. Add fluid and/or dispense capacity at any time.
1.3. Easy/fast entry of authorized PIN codes and job information on a Wireless Dispense Keypad.
1.4. Easy dispense and fast completion of work order.
1.5. Generate reports by product, by vehicle, by work order, or by technician.
1.6. Monitor inventory levels from your PC.
1.7. Operator and manager security levels.

Specifications

2.1. Keypad will utilize communication in a 2-way 2.4 GHz frequency hopping spread spectrum
2.2. Keypad will measure in quarts, liters, pints, and gallons
2.3. Keypad will be 110 VAC, 50/60 Hz
2.4. Keypad will have an operating temperature range of 14ºF to 140ºF (-10ºC to 60ºC)
2.5. Control handle will have a fluid inlet port of ½" NPT (F)
2.6. Control handle will have a max flow rate of 10 Gal/m (38 l/min)
2.7. Control handle will have a max operating pressure of 1,000 psi (70 bar)
2.8. Control handle will have a measuring accuracy of +/- 0.5%

Materials

3.1. The wetted materials will consist of Aluminum, acetal, Steel, Zinc-plated Steel, Buna-N™, and EPDM for water based solutions and brake fluid applications.

Warranty

4.1. Keypad will have a 1-year parts, labor, and mileage warranty (defects in materials and workmanship only).
4.2. Handle will have a 1-year parts, labor, and mileage warranty (defects in materials and workmanship only).

Fluid Inventory Control - Fusion 2.4 Control Handles

Overview

- The fusion 2.4 RF Control Handle is equipped with RF (radio frequency) communications to communicate with a fluid management system keypad to get authorization and dispense information.
- The meter can also be run as a standard Electronic Preset Meter (EPM). This is intended for start-up purposes or when the fluid management system is not in use.

MODELS AVAILABLE	
❑ 3331-021	Handle for oil and anti-freeze bare
❑ 3332-083	Rigid Hi-Flow w/Semi-Auto Lock Nozzle
❑ 3332-084	Flex Hi-Flow w/Semi-Auto Lock Nozzle

COMPONENT TECHNICAL DATA	
Function	To dispense fluid
Requirements & Limitations	Min./Max. Flow .25-10 gal/min (1-38 l/min)
	Max. Operating Pressure 1,000 psi (70 bar)
	Meter Accuracy +/- 0.5% - oil +/- 1.5% Anti-freeze (Glycol)
	LCD Display 5 char; 0.40"H x 0.20"W
	Units of Measurement Quarts, Pints, Gallons, and Liters
	Inlet/Outlet 1/2" NPT
	fusion 2.4 control handles are compatible with Oil, ATF, Anti-freeze, and diesel fuel.
Power	4 - "AA" batteries

FIC

Description:

1.1. The fusion 2.4 RF Control Handle is equipped with RF (radio frequency) communications to communicate with a fluid management system keypad to get authorization and dispense information.
1.2. The meter can also be run as a standard Electronic Preset Meter (EPM). This is intended for start-up purposes or when the fluid management system is not in use.

Specifications

2.1. Control handle will have a fluid inlet port of ½" NPT (F)
2.2. Control handle will have a min./max flow rate of .25-10 gal/min (1-38 l/min)
2.3. Control handle will have a max operating pressure of 1,000 psi (70 bar)
2.4. Control handle will have a measuring accuracy of +/- 0.5% for oil and +/- 1.5% for Anti-freeze (Glycol)
2.5. Control handle will have units of measure in Quarts, Pints, Gallons, and Liters
2.6. Control handle will require 4 replaceable "AA" batteries.
2.7. Control handle will be compatible with Oil, ATF, Anti-freeze, windshield washer fluid, and diesel fuel.

Materials

3.1. The wetted materials will consist of Aluminum, acetal, Steel, Zinc-plated Steel, and Buna-N™

Warranty

4.1. Handle will have a 1-year parts, labor, and mileage warranty (defects in materials and workmanship only).
4.2. Handle components will have a 1-year replacement only warranty (defects in materials and workmanship only).

System Description

Flexibility and Performance

Synergy is simple to use and offers outstanding performance. It is very easy to customize to your unique needs for control of oil, anti-freeze (Glycol) and more. With Synergy, you will have full control of all liquid consumption for vehicle service and industrial applications.

Intelligent Modules with Easy Integration

The system uses intelligent modules, which offer a variety of adaptations in the software. Synergy can be installed in both existing and new facilities. The system provides precise metering and dispensing of fluids. Multilingual, English, Spanish, and French.

Remote Access

The remote keypads are designed to be located in strategic places allowing remote entry of PIN ID, job or work order number, and amount of fluid to be dispensed at any given location. A Minimum of 1 keypad is required to operate a system, but there is no limit for the total number of keypads in the system. Any dispense can be initiated from any keypad.

System Control

The Multi-Point Dispense Module (MPDM) controls the amount of fluid ordered from any keypad or PC in the entire system. One module controls up to 4 outlets and offers a keyed manual override. Every outlet port can be given unique functions:

- Pin code
- Volume
- Time-out
- Job number
- Group access
- Pulse per unit
- Display information
- Minimum/maximum volume

SYNERGY installation must be performed by a Balcrank Synergy Certified Distributor. Contact your Balcrank representative for additional information.

Synergy Module Configurations are Unlimited

- ❑ 3110-017 Multi-Point Dispense Module
- ❑ 3110-016 Standard Key Pad
- ❑ 3110-019 PC Interface Module
- ❑ 3110-020 Tank Control Module
- ❑ 3110-021 Tank Surveillance Module
- ❑ 3120-068 LED Display
- ❑ 3110-018 Printer Module
- ❑ 3120-117 Meter Solenoid Valve Kit for Oil/ Anti-freeze
- ❑ 3120-074 Meter Solenoid Valve Kit for Grease
- ❑ 3120-075 Meter Solenoid Valve Kit for Diesel
- ❑ 3120-077 Meter Solenoid Valve Kit for WW Fluid
- ❑ 3120-078 Meter Solenoid Valve Kit for DEF
- ❑ 3120-072 Professional Software

Description:

The Balcrank Synergy Fluid Management System will assist facilities in precision metering, dispensing fluid from bulk tanks, hose reels, and mobile units, and the management of fluids.

- Synergy systems will control up to 255 outlets
- Synergy systems will manage an unlimited number of fluids, keypads, and job number validations
- Synergy systems will manage simultaneous dispense locations: dispensing anywhere from keypads and PC clients
- Synergy systems will have real-time flexible tank monitoring and integration
- Synergy systems will control a variety of fluids including detergents, cleaning fluids, synthetic oils, mineral-based oil and grease, anti-freeze, windshield washer fluid, diesel, and diesel exhaust fluid (DEF).
- Synergy systems will provide basic PC interface software and offer professional software
- Synergy systems will have three database options; a limited option, an intermediate option and an advanced option
- Synergy systems will have flexible features allowing for expansion of fluids, users, dispense points, technician monitoring, and networking.
- Synergy systems must be 100% wired for data security and communication reliability.

Fluid Inventory Control - Synergy Multi-Point Dispense Module (MPDM)

Overview

- The Multi-Point Dispense Module handles metering and fluid solenoid control from any keypad or PC in the entire system.
- One module controls up to 4 reel dispense points and offers a keyed manual override.
- Every outlet port can be given unique functions: Volume, time out, job number, group access, Pulse Per Unit, display information, min./max. volume.

MODELS AVAILABLE	
❑ **3110-017**	Multi-Point Dispense Module

TECHNICAL DATA	
Function	Module controls 4 dispense points/solenoids
Requirements & Limitations	4 outlets/dispense points Limit of 60' max. distance per dispense point from MPDM to meter valve AC Power cord (not included), see part 3130-001
Power	Input-110 VAC, output - 24 V DC

Description:

1.1. The Multi-Point Dispense Module handles metering and fluid solenoid control from any keypad or PC in the entire system.
1.2. One module controls up to 4 reel dispense points and offers a keyed manual override.
1.3. Every outlet port can be given unique functions: Volume, time out, job number, group access, Pulse Per Unit, display information, min./max. volume.

Specifications

2.1. Synergy Multi-Point Dispense Module will control 4 dispense points/solenoids
2.2. Synergy Multi-Point Dispense Module will have a maximum of 60' (18 m) distance per dispense point from MPDM to meter valve
2.3. Synergy Multi-Point Dispense Module will have an internal database limited to eight PIN codes only
2.4. Synergy Multi-Point Dispense Module will have an input of 110 VAC and an output of 24 VDC

Warranty

3.1. All Synergy components will have a 1-year parts, labor, and mileage warranty (defects in materials and workmanship only).

Overview

- The standard keypads are designed to be located in strategic locations to allow remote entry of reel selection, PIN, job number, etc.
- Can be equipped with optional Serial Port Kit for use with an external reader.
- No limit for number of keypads in the system.
- Any reel dispense points can be opened from any keypad.

MODELS AVAILABLE	
❑ **3110-016**	Keypad with Serial Port

TECHNICAL DATA	
Function	Module allows remote entry of PIN, job number, qty, etc.
Requirements & Limitations	Minimum 1 keypad required to operate a remote system No limit for number of keypads in the system
Power	Input - 24 V DC, output - 24 V DC

Description:

1.1. The standard keypads are designed to be located in strategic locations to allow remote entry of reel selection, PIN, job number, etc. 1.2. Can be equipped with optional Serial Port Kit for use with an external reader.
1.3. No limit for number of keypads in the system.
1.4. Any reel dispense points can be opened from any keypad.

Specifications

2.1. Synergy system will require a minimum of one keypad to operate a remote system
2.2. Synergy system keypad will have no limit to the number of keypads in the system
2.3. Synergy standard keypad will have an input of 24 VDC and an output of 24 VDC
2.4. Synergy can be equipped with a serial port kit for use with an external reader

Warranty

3.1. All Synergy components will have a 1-year parts, labor, and mileage warranty (defects in materials and workmanship only).

Fluid Inventory Control - Synergy PC Interface Module

Overview

PC Interface Module

- Interfaces Synergy system to the PC
- Includes basic software:
- Allowing graphic visualization of the Synergy system components.
- Export system data to a simple text file.
- Synchronization of the system time with the PC
- Enhance system capabilities with Synergy Professional software.
- Operator interface, includes powerful database manager with professional software.

MODELS AVAILABLE	
❑ **3110-019**	PC Interface Module

TECHNICAL DATA	
Function	Allows PC Interface
Requirements & Limitations	PC Requirements: - Runs under Windows 7 / 2000 / XP / Vista / Windows 8, 8.1, 10 - Intel Pentium 2-333Mhz 128Mb RAM - Must have free compatible 9-pin serial port. Comes with Basic Software: - Graphically view system - Set system time, update tank levels - Simple data export
Power	Input - 24 V DC, output - 24 V DC

Description:

1.1. Interfaces Synergy system to the PC
1.2. Includes basic software:
1.3. Allowing graphic visualization of the Synergy system components.
1.4. Export system data to a simple text file.
1.5. Synchronization of the system time with the PC
1.6. Enhance system capabilities with Synergy Professional software, see page 102 for software upgrade, sold separately.
1.7. Operator interface, includes powerful database manager with professional software.

Specifications

2.1. Synergy PC Interface Module will have PC requirements:
  2.1.1. Runs under Windows 7/2000 / XP/ Vista / 8.1
  2.1.2. Intel Pentium 2-333Mhz 128Mb RAM
  2.1.3. Must have free compatible 9-pin serial port

2.2. Synergy Tank Control Module will have an input of 24 VDC and an output of 24 VDC

Warranty

3.1. All Synergy components will have a 1-year parts, labor, and mileage warranty (defects in materials and workmanship only).

Overview

Tank Control Module

- The Tank Control Module is used to monitor up to 4 fresh and/or waste oil tanks per module using either high/low level sensors or analog probes.
- Controls up to four air valves for automatic start and stop of pumps.
- Equipped with key switch for normal operation, emergency override and On/Off functions.
- Controls waste pump/solenoid valves providing high level warning for Used Oil or low level warning and reorder point for fresh oil on PC.

MODELS AVAILABLE	
❑ **3110-020**	Tank Control Module
TECHNICAL DATA	
Function	Controls tank monitoring
Requirements & Limitations	4 tanks per module Can only be used in the PC based system
Power	Input - 110 VA C, Output - 24 V DC

Description:

1.1. The Tank Control Module is used to monitor up to 4 fresh and/or waste oil tanks per module using either high/low level sensors or analog probes. Control pumps - automatic start and stop.
1.2. Controls air solenoid valves.
1.3. Equipped with key switch for normal operation, emergency override and On/Off functions.
1.4. Controls waste pump/solenoid valves providing high level warning for Used Oil or low level warning and reorder point for fresh oil on PC.

Specifications

2.1. Synergy Tank Control Module will control tank monitoring
2.2. Synergy Tank Control Module will monitor up to four tanks per module
2.3. Synergy Tank Control Module will be used in a PC based system with Synergy professional software
2.4. Synergy Tank Control Module will have an input of 110 VAC and an output of 24 VDC

Warranty

3.1. All Synergy components will have a 1-year parts, labor, and mileage warranty (defects in materials and workmanship only).

Overview

- Large display, easy to see from long distances.
- The active reel dispense points is shown in the lower left corner.
- When equipped with a clock module or connected with a PC, LED Display unit shows the current time when the system in not in use.
- Displays the active dispense volume
- Can display tank volume when used in a PC based system running the Professional software 3120-072 with a tank control module and an analog sensor.

NOTE: If the LED Display unit is used to display tank volume, it cannot be used to display dispenses, and can only display the volume of a single tank.

MODELS AVAILABLE	
❑ **3120-068**	LED Display

TECHNICAL DATA	
Function	Displays active dispense point & time
Requirements & Limitations	Accommodates a clock module for a non-PC system
Power	Input - 24 V DC, Output - 24 V DC

Description:

1.1. Large display, easy to see from long distances.
1.2. The active reel dispense points is shown in the lower left corner.
1.3. When equipped with a clock module or connected with a PC, LED Display unit shows the current time when the system in not in use.
1.4. Displays the active dispense volume
1.5. Can display tank volume when used in a PC based system running the Professional software 3120-072 with a tank control module and an analog sensor.

NOTE: If the LED Display unit is used to display tank volume, it cannot be used to display dispenses, and can only display the volume of a single tank.

Specifications

2.1. Synergy LED Display will accommodate a clock module for a non-PC system

Warranty

3.1. All Synergy components will have a 1-year parts, labor, and mileage warranty (defects in materials and workmanship only).

Overview

Printer Module

- Interfaces FIC system to the optional ticket printer.
- Internal database stores user, PIN, and job information, when no PC is used.
- Transaction details printed on the optional ticket printer.
- Can also be used in a PC system for job tickets anywhere in a system layout.

MODELS AVAILABLE	
❑ 3110-018	Printer Module

TECHNICAL DATA	
Function	Controls printability
Requirements & Limitations	Max. 912 transactions 32 users 8 tanks Accommodates a clock module for a non-PC system The non-PC system requires the Printer Module to create printouts of all transactions to ticket printer (3120-069)
Power	Input - 24 V DC, Output - 24 V DC

Description:

1.1. Interfaces FIC system to the optional ticket printer.
1.2. Internal database stores user, PIN, and job information, when no PC is used.
1.3. Transaction details printed on the optional ticket printer.
1.4. Can also be used in a PC system for job tickets anywhere in a system layout.

Specifications

2.1. Synergy Printer Module will have a single 25 pin port for connection of the optional ticket printer 3120-069.
2.2. Synergy Printer Module will accommodate a clock module for a non-PC system

Warranty

3.1. All Synergy components will have a 1-year parts, labor, and mileage warranty (defects in materials and workmanship only).

Fluid Inventory Control - Synergy Tank Surveillance Module

Overview

Tank Surveillance Module

- The Tank Surveillance Module is used to monitor up to 4 fresh and/or waste oil tanks per module using either high/low level sensors or analog probes. Control pumps - automatic start and stop.
- Controls up to 4 solenoids (air or fluid) and can be used for either standalone tank monitoring or integrated with a PC based system.
- Equipped with key switch for normal operation, emergency override and On/Off functions.
- Green, red, & yellow LED's on the front cover provide current tank status at a glance.
- Used Oil - warning lights indicate ready, high level, and full.
- Fresh oil - warning lights indicate ready, low level, and empty.

MODELS AVAILABLE	
❑ **3110-021**	Tank Surveillance Module

TECHNICAL DATA	
Function	Controls tank monitoring with LED status lights
Requirements & Limitations	4 tanks per module Can be used as a stand alone, in a non-PC based system, or in a PC based system
Power	Input - 110 VAC, Output - 24 V DC

FIC

Description:

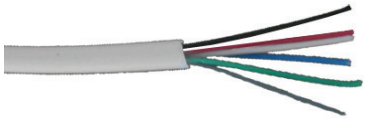
1.1. The Tank Surveillance Module is used to monitor up to 4 fresh and/or waste oil tanks per module using either high/low level sensors or analog probes. Analog probes only with a PC based system running the Professional software. Control pumps - automatic start and stop.
1.2. Controls up to 4 solenoids (air or fluid) and can be used for either standalone tank monitoring or integrated with a PC based system.
1.3. Equipped with key switch for normal operation, emergency override and On/Off functions.
1.4. Green, red, & yellow LED's on the front cover provide current tank status at a glance.
1.5. Used Oil - warning lights indicate ready, high level, and full.
1.6. Fresh oil - warning lights indicate ready, low level, and empty.

Specifications

2.1. The Synergy Tank Surveillance Module will control tank monitoring
2.2. The Synergy Tank Surveillance Module will monitor up to four tanks per module
2.3. The Synergy Tank Surveillance will be used as a stand-alone or integrated with PC based system
2.4. The Synergy Tank Surveillance Module will have an input of 110 VAC and an output of 24 VDC

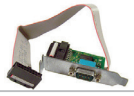
Warranty

3.1. All Synergy components will have a 1-year parts, labor, and mileage warranty (defects in materials and workmanship only).

	MODEL	DESCRIPTION	COMPONENT
	**PROGRAMS & APPLICATIONS**		
	❑ **3120-072**	Professional Software Full-featured PC database. Easy system configuration Variety of standard & customized reports	
	❑ **3110-022**	PC Keypad interface	
	❑ **3120-070**	Tank Alerts via E-mail	
	❑ **3110-023**	DB Dock Service. Synchronize mobile database with main database	
	**COMMUNICATION & CONTROL**		
	❑ **3128-050**	Communication Cable 50 ft.	
	❑ **3128-100**	Communication Cable 100 ft.	
	❑ **3128-150**	Communication Cable 150 ft.	
	❑ **3128-250**	Communication Cable 250 ft.	
	❑ **3129-050**	Control Cable 50 ft.	
	❑ **3129-100**	Control Cable 100 ft.	
	❑ **3129-150**	Control Cable 150 ft.	
	❑ **3129-250**	Control Cable 250 ft.	
 3120-082  3120-092  3120-093  3120-094  3120-084	**TANK SENSORS**		
	Tank sensors (switches provide low level/high level responses, depending on model.For use with Tank Control Module 3110-020 and Tank Surveillance Module 3110-021		
	❑ **3120-079**	Level Sensor, Switch, Oil. Low level stop, 3.5 ft. with 17 ft. cable	
	❑ **3120-080**	Level Sensor, Switch, Other Fluids. Low level stop, 3.5 ft. with 17 ft. cable	
	❑ **3120-081**	2 Level Sensor, Switch, Oil. Low level alarm and stop, 3.5 ft. with 17 ft. cable	
	❑ **3120-082**	2 Level Sensor, Switch, Other Fluids. Low level alarm and stop, 3.5 ft. with 17 ft. cable	
	❑ **3120-083**	2 Level Sensor, Switch, Used Oil. High level alarm and stop, 11.75" warning and 6" off/stop	
	❑ **3120-084**	Level Sensor, Analog, Oil. Provides low level/high level actual volume, for tanks up to 13 ft. tall with 23 ft. cable	
	❑ **3120-092**	1 Level Sensor, Switch, Single Probe, 5.6 ft. with 33 ft. cable	
	❑ **3120-093**	2 Level Sensor, Switch, Double Probe, 3 ft. & 5.5 ft. with 33 ft. cable	
	❑ **3120-094**	1 Level Sensor, Switch, Flex Adjustable Single Probe, 16 ft. cable	
	**TICKET PRINTER**		
	❑ **3120-069**	Optional ticket printer for use with Printer Module 3110-018	
	**Y-STRAINER - 580 PSI (40 BAR) ALL STRAINERS HAVE 40 MESH**		
	❑ **3120-211**	1/2" NPT(F)	
	❑ **3120-212**	3/4" NPT(F)	
	❑ **3120-213**	1" NPT(F)	

FIC

DR METER							
	MODEL	MATERIAL	INLET/OUTLET THREADS	UNIT OF MEASURE	MAX PRESSURE	COMPATIBLE FLUIDS	SB
	3120-013 PULSE METER	CPVC	1/2" NPT(F)	Liters, Gallons, Quarts, and pints	450 psi (10 bar)	Glycol, windshield wash solutions and DEF	SB 3107
DR METER HIGHFLO							
	3120-014 PULSE METER	Aluminum	3/4" NPT(F)	Liters, Gallons, Quarts, and pints	1450 psi (10 bar)	Oil, glycol and coolant solutions	SB 3108

	MODEL	DESCRIPTION	COMPONENT TECHNICAL DATA
	METER/VALVE KITS Solenoid Valve Kits - High precision meter modules include pulse meter, and solenoid valve. Balcrank recommends the use of a Y-Strainer on the dispense side of the pump, Order one per dispense point for use with Synergy		
	❑ **3120-117**	Oil	Pressure: 1450 psi (100 bar) Connection: 1/2" NPT(M/M) Power: 24 V DC
	❑ **3120-074**	Grease	Pressure: 7250 psi (500 bar) Connection: In: 1/4" NPT(M) Out: 1/4" NPT(M) Power: 24 V DC
	❑ **3120-075**	Diesel	Pressure: 145 psi (10 bar) Connection: 3/4" NPT(M/M) Power: 24 V DC
	❑ **3120-077**	Windshield Washer Fluid	Pressure: 725 psi (50 bar) Material: 1/2" NPT(M/M) Power: 24 V DC
	❑ **3120-078**	DEF	Pressure: 725 psi (50 bar) Material: 1/2" NPT(M/M) Power: 24 V DC
	❑ **3120-031**	-	Ready Light Alerts technician when fluid batch is available for dispensing.
	FIC ACCESSORIES Bar code, Card, and Dallas Key Reader require a Serial Port Kit		
	❑ **3120-204**	Clock Module for LED or Printer Module	
	❑ **3120-205**	Serial Port Kit	
	❑ **3120-208**	Bar Code Reader + Serial Port Kit	
	❑ **3120-209**	Card Reader + Serial Port Kit	
	❑ **3120-210**	Dallas Key Reader + Serial Port Kit	

FIC

Synergy Meter Solenoid Valve Kit

- ❑ **3120-117** Meter Solenoid Valve Kit for Oil/ Anti-freeze
- ❑ **3120-074** Meter Solenoid Valve Kit for Grease
- ❑ **3120-075** Meter Solenoid Valve Kit for Diesel
- ❑ **3120-077** Meter Solenoid Valve Kit for WW Fluid
- ❑ **3120-078** Meter Solenoid Valve Kit for DEF
- ❑ **3120-031** Ready Light

Description:

1.1. The Balcrank Synergy Pulse Meter Solenoid Valve Kit high precision meter modules will include pulse meter, and solenoid valve
1.2. The Synergy Pulse Meter Solenoid Valve Kit will control dispensing of fluids including synthetic oils, mineral-based oil and grease, anti-freeze, windshield washer fluid, and Diesel Exhaust Fluid (DEF).
1.3. The Synergy Pulse Meter Solenoid Valve Kit will be designed to be located at each dispense point

Specifications

2.1. The Synergy Pulse Meter Solenoid Valve Kit will control fluid dispensing
2.2. The Synergy Pulse Meter Solenoid Valve Kit will have an input of 24 VDC
2.3. The Synergy Pulse Meter Solenoid Valve Kit for Oil/Anti-freeze will have
  2.3.1. Max operating pressure of 1450 psi (100 bar)
  2.3.2. Connection 1/2" NPT (M/M)
  2.3.3. Meter accuracy of +/- 0.5% easy to calibrate pulse of 310 PPQ (328 PPL)
2.4. The Synergy Pulse Meter Solenoid Valve Kit for Grease will have
  2.4.1. Max operating pressure of 7250 psi (500 bar)
  2.4.2. Connection In: 3/8" NPT(M), Out: 1/8" NPT(M)
2.5. The Synergy Pulse Meter Solenoid Valve Kit for Diesel will have
  2.5.1. Max operating pressure of 145 psi (10 bar)
  2.5.2. Connection 3/4" NPT(M/M)
2.6. The Synergy Pulse Meter Solenoid Valve Kit for Windshield Washer Fluid and DEF will have
  2.6.1. Max operating pressure of 725 psi (50 bar)
  2.6.2. Connection 1/2" NPT(M/M)

Warranty

3.1. All Synergy components will have a 1-year parts, labor, and mileage warranty (defects in materials and workmanship only).

Fluid Inventory Control - TM Control

Overview

TM Control
Standalone tank controller with 4 channels capable of controlling up to 4 different tanks or fluids. Each channel can connect to a solenoid valve, remote alarm or strobe light.

The TM Control can be used as a high or low-level control to prevent overflow, or as a pump shutoff to prevent the pump from running dry, and allowing air to enter the system.

MODELS AVAILABLE	
❑ **3110-033**	TM Control

TECHNICAL DATA	
Function	Stand alone tank controller
Requirements & Limitations	4 tanks or 4 fluids
Power	Input - 110-230 V AC Required Voltage - 110/60 Hz 240/50 Hz V AC

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Description:

1.1. Controls up to four channels. Each channel can be assigned to a different tank, or multiple channels can be assigned to a single tank
1.2. Each channel controls solenoid valves, relays, external alarms, etc.
1.3. This unit can be a standalone unit; no need to connect to auxiliary software or systems
1.4. TM Control works with Tank alert strobe light and alarm 3120-029
1.5. One button for setup, resetting alarms, and system test
1.6. Use the key switch for bypass mode control, setup access, or rebooting the system
1.7. Status LEDs: yellow indicates bypass mode and white on indicates system status; on
1.8 Input LED for each channel; red blinking LED indicates level warning
1.9 Outputs can be configured to “normally-open” or “normally closed”

Specifications

2.1. The TM Control will control tank monitoring
2.2. The TM Control will monitor up to four tanks or four fluids per module
2.3. The TM Control will be used as a stand-alone tank controller
2.4. The TM Control will have an input power of 110 V AC, requiring voltage of 110/60 Hz 240/50 Hz V AC

Warranty

3.1. All TM Control components will have a 1-year parts, labor, and mileage warranty (defects in materials and workmanship only).

	MODEL	DESCRIPTION	COMPONENT TECHNICAL DATA
	RECOMMENDED ACCESSORIES		
	❑ **3120-029**	Tank alert strobe alarm	Power: 24 V DC
	❑ **3120-033**	Air solenoid valve	Air Solenoid Provides for the remote shutdown of dispensing pumps from the fluid control console. Order one per controlled pump. Pressure: 200 PSI (12 bar) Connection: 3/8" NPT (F/F) Power: 24 V DC
 3120-092 3120-093  3120-094	**TANK SENSORS** Tank sensors (switches provide low level/high level responses, depending on model)		
	❑ **3120-092**	1 Level Sensor, Switch, Single Probe, 5.6 ft. with 33 ft. cable	
	❑ **3120-093**	2 Level Sensor, Switch, Double Probe, 3 ft. & 5.5 ft. with 33 ft. cable	
	❑ **3120-094**	1 Level Sensor, Switch, Flex Adjustable Single Probe, 16 ft. cable	

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