CELEBRATING 115 YEARS

Balcrank

Fluid Management Solutions

Automotive | Commercial | Industrial

Balcrank
Fluid Dispensing Systems

Fluid Inventory Control
Product Selection Matrix

FEATURES	NEX·U·	SYNERGY	DIRECTOR JR.
Max. number of dispense points	Unlimited	255	10
Max. number of fluids	Without U·tank: Unlimited | With U·tank: 50	Unlimited	1
Fluid names	✓	✓	
Number of keypads	Without U·tank: Unlimited | With U·tank: 50	Unlimited	1
Job number validation	✓	✓	
Job numbers	✓	✓	
Simultaneous keypad operation	✓	✓	
Simultaneous dispense	✓	✓	
Max. number of tanks	Without U·tank: Unlimited | With U·tank: 50	Unlimited	
Calculated tank declining balance	✓	✓	
Real-time tank monitoring	✓	✓	
Tank report over e-mail	✓	✓	
PIN code validation	✓	✓	
Operation PIN codes	✓	✓	
Max. number of PINs	Unlimited	Unlimited	
Extensive user permission configuration	✓	✓	
Preset volumes	✓	✓	✓
Hose Reel ID	✓	✓	✓
Operator names	✓	✓	
Dispense from keypads	✓	✓	✓
Dispense from PC	✓	✓	
Dispense from smart phone/tablet	✓		
Max. number of transaction history	U·track: Unlimited | U·dat: 5000	Unlimited	
Print reports	✓	✓	
Print receipt	✓	Local / Network	
Custom reports	✓	✓	
Bar Code / Card reader / Dallas Key	✓	✓	
Wireless	✓		
Bluetooth	✓		
DMC Integration - CDK	✓	✓	

Product specifications are subject to change without prior notice

Balcrank
Fluid Dispensing Systems

Fluid Inventory Control
Nex▪U▪®

NEX·U·® Fluid Monitoring Systems

NEX·U·® provides you with the control and the information you require to make your operation more profitable. You will be able to account for every drop of lubricant and other service fluids used.

Today's Challenges

Lost inventory equals lost profit; with today's high oil prices, inventory control eliminates that concern.

The Solution

For almost any lubricant usage or shop size, with today's high cost for these fluids, NEX·U·® quickly pays for itself. Once it is paid for, savings go right to the operation's bottom line in the form of profit; profit previously lost.

NEX·U·® has been conceived with the user in mind, making fluid management and fluid inventory control an easy and trouble-free activity.

NEX·U·® adapts to your way of working

NEX·U·® is a hybrid system that brings you all the advantages of wireless flexibility and hard-wired reliability

CDKGlobal.

CDK Interface

A bidirectional communication is established through web services. The user enters their PIN number and the work order. DMS will prompt a message whether this information exists or not. NEX·U·® offers multiple operating modes depending on the customer's needs.

Wireless flexibility

- Data can be transmitted wirelessly among the different system components, eliminating long and expensive cable runs
- Easily adds new components when required as your needs grow
- System uses existing Wi-Fi® networks, simplifying its installation. No need for special, custom made, network components

Hard-wired reliability

- A constant and reliable power source is always present to power the solenoid valves that control fluid delivery.
- No uncharged batteries to let you down.
- Hard-wired data transmission to avoid interferences and other obstacles which might interfere with wireless data transmission

NEX·U·® contributes to increased productivity in vehicle service operations

- Provides total control and record of every fluid dispensed
- Secures fluid access to authorized technicians only
- Provides accurate, real-time fluid inventory information

NEXUS + YOU = NEX·U·®

NEXUS

WIRED

NEX·U· WIRELESS

+

YOU

NEX·U·®

=
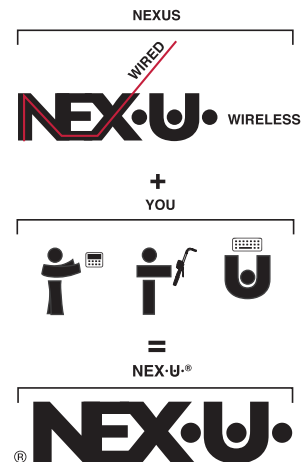
® **NEX·U·**

NEX·U·® combines the Latin word "NEXUS", which means connection to wireless or hard-wired connected system components, with "U" (You), the system User, the Human.

NEX·U·® installation must be performed by a Balcrank NEX·U·® Certified Distributor. Contact your Balcrank representative for additional information.

Balcrank
Fluid Dispensing Systems

Fluid Inventory Control
Nex▪U▪® U▪net

Unet

U·net is the key NEX·U·® component. It is the central processing unit that controls the system communications and houses the U▪track software.

Features

- U·net includes a powerful 2.4 GHz processor and 4 GB RAM
- It controls the system functions and manages the wired and wireless communication between the NEX·U·® components
- It has two CAN BUS ports (in/out) for wired communications with other NEX·U·® components and an ethernet port that allows U·net to connect to the shop LAN

COMPONENT TECHNICAL DATA	
Function	Central processing unit that controls the system communications and houses the U▪track software
Requirements & Limitations	Intel 2,4 GHz processor - 4 GB RAM memory - 64 GB storage capacity - One Ethernet connection, one HDMI, four USB and two CAN BUS communication ports
Power	10-240V AC - 5V DC transformer included

MODEL AVAILABLE	
3110-110	U·net central processing unit. Includes U▪track software
3110-133	Virtual Keypad license. Converts any terminal (PC, laptop, tablet or smartphone) into a NEX·U·® access Keypad.
3110-137	CDK - Activation fee for integrating with NEX·U·®
3110-138	CDK - Monthly fee for integrating with NEX·U·®

U·net also includes the U·track software
U·track is a powerful web-based software package that gives you full control of fluid usage and inventory. It is a web-based software that allows multi-user applications. All PCs or tablets in the same network and in the same location can have access to U·track. U·track can work using any web browser.

Compatible with: Chrome, Firefox, and Microsoft Edge.

CDKGlobal®

A bidirectional communication is established through web service. NEX·U·® offers multiple operating modes depending on the customer needs.

U·track benefits:
- Simple and intuitive system set-up
- Simplified system maintenance (manage users, fluid inventory, etc.)
- Manage all the system hard-wired and wireless communication
- Generate a wide variety of reports, which can be easily exported to CSV and txt formats
- Record and manage Validated Preset Transactions (required for operating with U·Vision+)
- Transform any PC terminal in the workshop into a NEX·U·® virtual keypad license required

U·track also contributes to increasing your operations efficiency and profitability:
- Keeps control of the quantity of fluid dispensed in the system
- Improves inventory accuracy, generating automatic warnings and email notifications for reorders at critical predefined inventory levels
- Generates a variety of reports, to help you track dispense information such as date and time, technician, work order, fluid dispensed, volume delivered, etc.

Balcrank
Fluid Dispensing Systems

Fluid Inventory Control
Nex▪U▪® U▪dat & U▪dat Power⁺

U·dat allows system access to technicians either through a PIN code or using a RFID card

U dat
U datpower⁺

Features

- U·dat includes a 7" full color graphics display and a complete QWERTY keypad
- U·dat supports CAN BUS cable communications that carry data and power to open the solenoid valves in the system. "Plug-and-play" connectors make cabling easy
- U·dat includes the transformer required to simultaneously open up to 8 solenoid valves

Optional Bluetooth printer (see accessories pg. 122).

COMPONENT TECHNICAL DATA	
Function	Allows system access to technicians either through a PIN code or using a RFID card
Requirements & Limitations	- Requires 110 - 240 V AC - CAN BUS in/out
Power	U·dat requires 110 - 240 V power supply
Service Bulletin	SB 3806

MODEL AVAILABLE	
3110-100	U·dat power+ keypad NEX·U·® access keypad with 7" color screen and QWERTY keypad. One USB, one RS232 and in/out CAN BUS ports. 110 - 240 V AC, with a 320 W transformer to open 8 solenoid valves, supports CAN BUS communications.
3110-104	U·dat power keypad NEX·U·® access keypad with 7" color screen and QWERTY keypad. One USB, one RS232 and in/out CAN BUS ports. 110 - 240 V AC, with a 75 W transformer to open 2 solenoid valves, supports CAN BUS communications.

NEX·U·® adapts to the way you work and it offers multiple possibilities for accessing the system.
Technicians can access NEX·U·® via:
- U·dat: System access keypad
- U·vision+
- Any device connected to the same network as U·net (laptop, smartphone or tablet)

Compatible with: Chrome, Firefox, and Microsoft Edge.

U·dat connection panel
All wired connections can be quickly and easily done without opening the U·dat.
It is possible to connect a printer, an external RFID reader, or a barcode reader to the RS-232 port.

Fluid Inventory Control
Nex▪U▪® U▪vision & U▪vision Power⁺

U·vision⁺ adapts to any Balcrank oil control handle and transforms the handle into a hand-held display and keypad for access to the NEX·U·® system.

Uvision
Uvision⁺

Features

Use the U·vision to display reel, battery and delivery. Use U·vision⁺ to dispense and to interact with the system.

- Modular design fits standard non-metered control handle
- Display dispensed data
- Display and input data

Meter only. Non-metered control handle not included

COMPONENT TECHNICAL DATA	
Function	Hand held display module
Requirements	Non-metered control handle, select on pg. 93
Power	U·vision⁺ is powered with 4 "AA" 1.5 V alkaline batteries
Service Bulletin	
U·vision	SB 3803
U·vision⁺	SB 3809

MODEL AVAILABLE	
3110-112	U·vision hand-held display module
3110-113	U·vision⁺ hand-held keypad and display module. (Control handle not included)

U·vision

Hand-held display module to fit a Balcrank oil control handle. Includes a backlight display connected via Bluetooth® with a U·valve, U·meter⁺ or U·count module and it displays the following parameters:

- Hose reel (fluid outlet number and fluid dispensed type)
- Battery life and Bluetooth® signal strength
- Volume delivered and operation progress
- Solenoid valve open or closed

U·vision⁺

U·vision⁺ includes a six-button keypad and it can replace the U·dat keypad for data entry in the system as it allows the following operations:

- User access through PIN entry
- Scroll through existing open job orders to select the one corresponding to each operation or enter the job order number (digits only)
- Enter the volume of fluid to be dispensed
- Confirm fluid type and transaction

Fluid Inventory Control
Nex▪U▪® U▪valve & U▪valve Power⁺

U·valve is a compact unit combining a high accuracy pulse meter, a solenoid valve and a large cleanable fluid screen filter with an electronic module. This module is required to control the meter and valve operation and to communicate with other system components.

∪valve
∪valve⁺

Features

- Reduces installation time and eliminates the risk of leaks when using separate components
- It has a large, high visibility LED display which shows the U·valve number assigned in the system and the U·valve operation
- Four different LED lights that show the U·valve operation for diagnosis and two buttons for system configuration
- U·valve supports CAN BUS cable communication that transmits data and the electric power required to open the solenoid valve and Bluetooth® connection to a U·vision or a U·vision⁺ fluid handle with display
- U·valve⁺ includes Wi-Fi® communications for data transmission to other system components

COMPONENT TECHNICAL DATA

Function	- Controls on/off function - Dispense flow controls and monitors - Communicates data to U·net system
Requirements & Limitations	Requires U·power or U·power⁺ power supply units
Power	U·valve and U·valve⁺ require 24 V DC supplied by a U·dat or a U·power module
Service Bulletin	SB 3802

PRODUCT SPECIFICATIONS

WETTED PARTS	Aluminium, NBR, stainless steel, acetal
APPLICATIONS	Lubricants, antifreeze solutions * if fluid additives are used, it is recommended to install stainless steel pulse meter and stainless steel solenoid valve
CONNECTION THREADS	1/2" NPT(F)
FLOW RANGE	1-32 qt/min (1-30 l/min)
PULSES PER QUART	310 ppq (328 ppl)
ACCURACY	+/- 0.5 %
MAXIMUM WORKING PRESSURE	1,450 psi (100 bar)
SOLENOID VALVE	24 V DC
COMMUNICATION	CAN BUS, Bluetooth˚, Wi-Fi˚ (U·valve⁺ only)

MODEL AVAILABLE

3110-115	U·valve meter, solenoid valve and electronic module. Includes Bluetooth® communication for connecting to a U·vision or U·vision⁺
3110-114	U·valve⁺ meter, solenoid valve and electronic module. Includes Bluetooth˚ connection to a U·vision or U·vision⁺ and Wi-Fi˚ for data transmission to other components in the system

Balcrank
Fluid Dispensing Systems

Fluid Inventory Control
Nex▪U▪® U▪meter & U▪meter⁺

High accuracy, compact pulse meter including the electronic module required to control the meter and valve operation and to communicate with other system components through CAN BUS.

3110-118   3110-117

Umeter
Umeter⁺

Features

- The meter has an LED display showing the U·meter number assigned in the system, four different LED lights that show the U·meter operation for diagnosis and two buttons for system configuration
- Equipped with fast connection in/out CAN BUS terminals
- Available in different materials and sizes to match different applications

NOTE: U·meter⁺ includes Bluetooth® connection to a U·vision or a U·vision⁺ module.

COMPONENT TECHNICAL DATA	
Function	In-line meter
Requirements & Limitations	Requires U·power or U·power⁺ power supply units. Order solenoid separately
Power	U·valve and U·valve⁺ require 24 V DC supplied by a U·dat or a U·power module

MODEL AVAILABLE	
3110-139	U·meter 1/2" NPT(F) Lube
3110-122	U·meter 3/4" NPT(F) Lube, diesel
3110-120	U·meter 1/2" NPT(F) DEF, WW. AF
3110-118	U·meter 1/2" NPT(F) DEF, WW. AF
3110-117	U·meter⁺ 1/2" NPT(F) Lube
3110-123	U·meter⁺ 3/4" NPT(F) Lube, diesel
3110-121	U·meter⁺ 1/2" NPT(F) DEF, WW. AF
3110-119	U·meter⁺ 1/2" NPT(F) DEF, WW. AF

U·METER⁺, MODELS WITH BLUETOOTH PART NO.	**3110-117**	**3110-123**	**3110-121**	**3110-119**
U·METER PART NO.	**3110-139**	**3110-122**	**3110-120**	**3110-118**
Wetted Materials	Aluminium, NBR, stainless steel, acetal	Aluminium, NBR, stainless steel, acetal	PVC, Vectra®, stainless steel, Viton®	Stainless steel, Vectra®, Viton®
Applications	Lubricants	Lubricants, diesel	DEF, WW, AF	DEF, WW, AF
Connection threads	1/2" NTP(F)	3/4" NTP(F)	1/2" NTP(F)	1/2" NTP(F)
Flow range	1 - 32 qt/min (1 - 30 l/min)	8.4 - 84.4 qt/min (8 - 80 l/min)	1 - 52.8 qt/min (1 - 50 l/min)	1 - 52.8 qt/min (1 - 50 l/min)
Pulses per quart	310 ppq (328 ppl)	103 ppq (109 ppl)	303 ppq (320 ppl)	303 ppq (320 ppl)
Accuracy	+/- 0.5 %	+/- 0.5 %	+/- 0.5 %	+/- 0.5 %
Max working PSI	1,450 psi (100 bar)	1,450 psi (100 bar)	1,450 psi (100 bar)	1,450 psi (100 bar)
Communications	CAN BUS	CAN BUS	CAN BUS	CAN BUS
Service Bulletin	SB 3801	SB 3810	SB 3801	SB 3808

U·METER SOLENOID KITS	**3110-125**	**3110-126**	**3110-127**	**3110-128**	**3110-130**	**3110-131**
Applications	Lubricants, AF	Lubricants, AF	High delivery lubricants & AF solutions	High delivery lubricants & AF solutions	DEF and WW (LP)	DEF and WW (LP)
Connection threads	1/2" NPT(F)	1/2" NPT(F)	3/4" NPT(F)	3/4" NPT(F)	1/2" NPT(F)	1/2" NPT(F)
Pulse meter	3110-139 U·meter	3110-117 U·meter⁺	3110-122 U·meter	3110-123 U·meter⁺	3110-120 U·meter	3110-121 U·meter⁺
Solenoid valve	3120-217	3120-217	3120-218	3120-218	3120-226	3120-226
Y-strainer	3120-211	3120-211	3120-212	3120-212	3120-211	3120-211

On
val

Balcrank
Fluid Dispensing Systems

Fluid Inventory Control
Nex▪U▪® U▪count & U▪view

U·count fluid control module includes a high visibility LED display and the software required to function with the rest of the NEX·U·® system components.

Ucount
Uview

Features

U·count fluid control module includes a high visibility LED display and the software required to function with the rest of the NEX·U·® system components.

The LED display shows the number assigned in the system and four different LED lights show the operation of the valve for diagnosis and two buttons for system configuration. U·count supports CAN BUS hard-wired communication that transmits data and power required to open the solenoid valve, for data communication with other system components and Bluetooth® to communicate with a U·vision or U·vision+ handle.

U·view has remote, high visibility, LED display that shows the volume delivered through various U·valves (no simultaneous operation supported). U·view supports Wi-Fi® and hardwired communication.

3110-135

3110-134

U·COUNT	3110-135
Description	Fluid meter and solenoid valve controller includes Bluetooth®, CAN BUS communications.
Service Bulletin	SB 3805

U·VIEW	3110-134
Description	U·view remote display module
Service Bulletin	SB 3804

MODEL AVAILABLE	
3110-135	U·count meter, solenoid, bluetooth
3110-134	U·view remote display module

U·count

The U·count allows the use of external solenoid/meter combination to control almost any fluid:
▪ DEF
▪ Highflow Oil
▪ Grease
▪ WW Fluid
▪ Anti-freeze

U·view

U·view requires hard-wired connection (data and power) to a U·dat keypad or to a 110 - 240 V AC power supply using a 24 V DC external transformer (U·power or U·power+).

Fluid Inventory Control
Nex▪U▪® Compact

NEX·U·® also offers solutions for smaller workshops where web-based software is not needed. NEX·U·® Compact is a simple system based on a special U·dat keypad that is able to control a maximum of 8 dispensing points.

NEX·U·® COMPACT	3110-101 & 3110-103
Description	NEX·U·® Compact keypad
Service Bulletin	SB 3806

Features

The Keypad includes a 7″ colored screen and a simplified version of the U·track software. The software included provides workshops with:
▪ Full control of bulk stored fluid usage.
▪ Inventory control using declining balance method. NEX·U·® Compact will give a warning signal once a certain inventory is reached, and restricts access to those outlets that have run out of inventory.
▪ Ability to generate full reports in CSV format that can provide useful management information.

NEX·U·® Compact 75.
With a 75 W transformer for opening up to 2 solenoid valves and dispensing 2 fluids

NEX·U·® Compact 320.
With a 320 W transformer for opening up to 8 solenoid valves and dispensing 8 fluids

MODELS AVAILABLE	
3110-101	NEX·U·® Compact 75
3110-103	NEX·U·® Compact 320.

NEX·U·® Compact does not support working within a network or PC connection.

Product specifications are subject to change without prior notice

![Balcrank Fluid Dispensing Systems logo]

Fluid Inventory Control
Nex▪U▪® Mobile

NEX·U·® Mobile allows fluid inventory and usage control in mobile service trucks. NEX·U·® Mobile is a special U·dat keypad module, which includes the software required for an autonomous operation, can control up to maximum of 8 fluid outlets. Completed transactions can be saved to a USB memory stick in an Excel format.

![NEX·U· logo]

Features

NEX·U·® MOBILE can work with any NEX·U·® fluid meter: U·valve; U·meter or U·meter+ with 24 V DC solenoid valve and filter.

Standard U·count and U·pulser solenoid valve are compatible with NEX·U·® Mobile as long as they are connected to a 24 V DC solenoid valve.

NEX·U·® Mobile Keypad
24 V DC keypad or opening up to 8 solenoid valves and dispensing 8 fluids

NEX·U·® MOBILE	3110-102
Description	NEX·U· Mobile keypad 24 U DC
Service Bulletin	SB 3806

MODEL AVAILABLE	
3110-102	NEX·U· Mobile keypad

Fluid Inventory Control
Nex▪U▪® U▪pulser

U·pulser high accuracy in-line pulse meter.

Upulser

Features

U·pulser high accuracy in-line pulse meter. Equipped with connection terminal and valve open indication light.

This meter does not have a display or function buttons and requires a 24 V DC solenoid valve.

Only for connection to a U·count module.

U·PULSER METER	3120-114	3120-014	3120-013	3120-227	3120-228
Wetted Materials	Aluminium, NBR, stainless steel, acetal	Aluminium, NBR, stainless steel, acetal	PVC, Vectra®, stainless steel, Viton®	Stainless steel, Vectra®, Viton®	Aluminium, acetal, NBR, Stainless steel
Applications	Lubricants,	Oil, diesel	DEF, WW and AF solutions	DEF, WW and AF solutions	Oil, diesel
Connection threads	1/2" NPT(F)	3/4" NPT(F)	1/2" NPT(F)	1/2" NTP(F)	1" NPT(F)
Flow range	1-32 qt/min (1-30 l/min)	8.4-84.4 qt/min (8-80 l/min)	1-52.8 qt/min (1-50 l/min)	1 - 52.8 qt/min (1 - 50 l/min)	10.4-84.4 qt/min (10-80 l/min)
Pulses per quart	310 ppq (328 ppl)	104 ppq (110 ppl)	303 ppq (320 ppl)	303 ppq (320 ppl)	104 ppq (110 ppl)
Accuracy	+/- 0.5 %	+/- 0.5 %	+/- 0.5 %	+/- 0.5 %	+/- 0.5%
Max working PSI	1,450 psi (100 bar)	1,450 psi (100 bar)	435 psi (30 bar)	1,450 psi (100 bar)	1,450 psi (100 bar)
Service Bulletin	SB 3099				

MODEL AVAILABLE	
3120-114	U·pulser 1/2" NPT(F) Lube, AF
3120-014	U·pulser 3/4" NPT(F) Oil, glycol, coolant solutions, diesel
3120-013	U·pulser 1/2" NPT(F) DEF, WW. AF
3120-227	U·pulser 1/2" NPT(F) DEF, WW. AF
3120-228	U·pulser 1" NPT(F) DEF, WW. AF

Balcrank
Fluid Dispensing Systems

Fluid Inventory Control
Nex▪U▪® U▪tank

Provides real-time inventory control, reducing concerns about running out of inventory or used fluid tanks overflow.

Features

U·tank is a monitor module capable of controlling two tanks using digital or analog level gauges. Can be connected to solenoid valves to control pump operation, and to external warning devices.

U·tank has two independent graphic displays and level bars, where the inventory available in each tank can be checked. It also has a set-up keypad for inventory adjustment if required[1].
See pg. 124 for probes and alarm

COMPONENT TECHNICAL DATA	
Function	Monitor tank fluid levels
Requirements	- Requires 110 V
Power	110 -240 V AC supply
Service Bulletin	SB 3807

MODEL AVAILABLE	
3110-105	U·tank tank monitoring module. Can control up to two tanks. Supports CAN BUS communications. 110 - 240 V

The number of input and output ports are:
▪ One analog input per tank for a pressure probe with 4-20 mA or 0-10V
▪ Three digital inputs per tank for a low, intermediate or high-level probe [1]
▪ One output per tank for a solenoid valve to control air supply to each pump
▪ One output per tank for an electro-pneumatic valve to prevent tank overfill
▪ One output for controlling an air solenoid valve to stop the air supply to all pumps when the workshop is closed
▪ One output per tank for controlling a flash warning light or an acoustic alarm
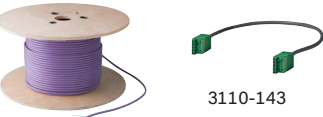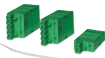
U·tank supports CAN BUS wired communication with other NEX·U·® system components plus Wi-Fi® with optional CAN BUS to Wi-Fi® converter.

(1) The use of digital probes does not allow real-time inventory monitoring. NEX·U·® will use declining balance for inventory control and will require manual inventory adjustment when fluid is supplied to the tank.
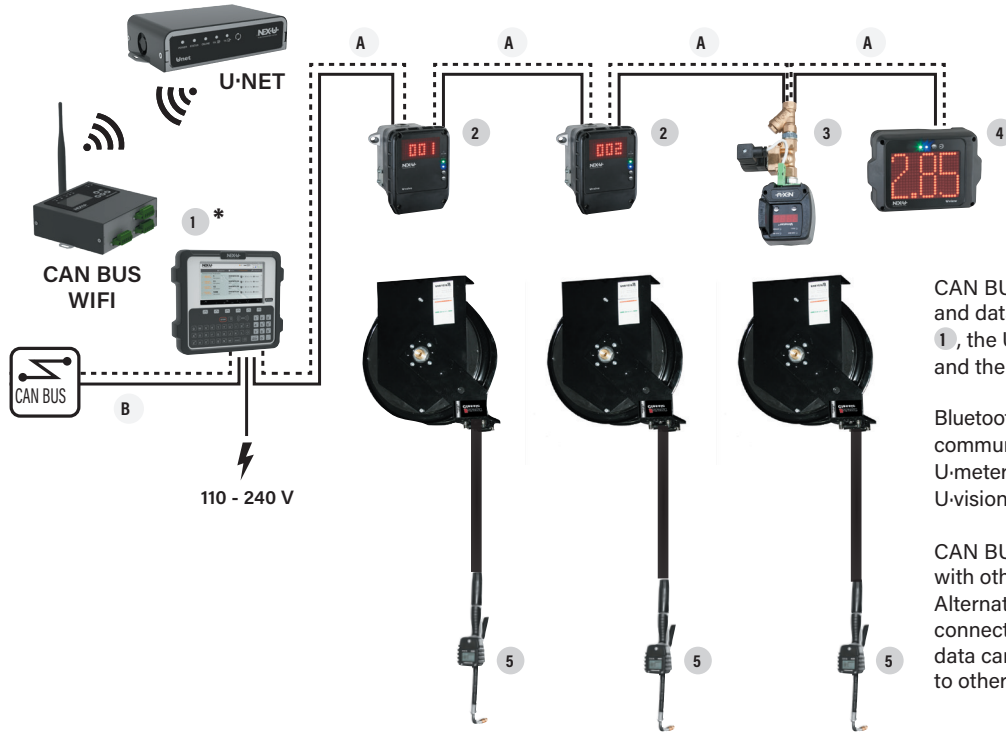
Only for connection with U·dat, U·valve, or an adjacent U·meter. Requires a 24 V DC solenoid valve.

MODEL	DESCRIPTION
U·POWER & U·POWER⁺	
3110-106	U·power+. Power supply unit with a 320 W transformer for use with 8 solenoid valves. Two CAN BUS ports (one input/one output)
3110-108	U·power. Power supply unit with a 75 W transformer for use with 2 solenoid valves. Two CAN BUS ports (one input/one output)
3110-146	U·power+. Power supply unit with a 320 W transformer for use with 8 solenoid valves. Three CAN BUS ports (one input/two output)
CAN BUS TO WIFI CONVERTER	
3110-145	Allows wireless communication among the different components of the system. Equipped with an external antenna, it allows for extended signal coverage. It can be configured from a Windows or Android application. Can be used with any CAN BUS component
BLUETOOTH PRINTER	
3110-109	Optional printer for use with NEX·U·® COMPACT, connected via Bluetooth to the U·dat.
BARCODE	
3110-140	Bar code laser reader. Reads any one dimensional code. For use with a U·dat, U·dat Power+ and U·dat for NEX·U·® mobile and compact systems.
U·VALVE BRACKET	
2230-040	Allow for mounting U·valve on top of a hose reel stand.
CAN BUS CABLE	
3130-110	100' (30.5 m) CAN BUS communication cable
3130-500	500' (152.4 m) CAN BUS communication cable
3130-100	1,000' (304 m) CAN BUS communication cable
3110-143	Jumper cable. 1.6' (0.5 m) cable with pre-wired connectors 3110-141 for connecting adjacent elements with a CAN BUS cable
3110-141	In/out electrical connectors. For use with U·meter, U·meter+
3110-136	Allows wiring connection between U·valves
LEVEL GAUGES	
3120-084	Tank level pressure gauge. Allows real-time monitoring of the volume in a tank. Maximum tank depth 11 1/2" (350 cm)
3120-079	Digital level gauge. Detects minimum, intermediate or maximum volume in a tank. Does not allow real-time monitoring. Adjustable height, includes 16' (5 m) cable
3120-029	Remote flash and acoustic alarm

SOLENOID VALVES FOR FLUIDS

NEX·U·® requires 24 V DC, normally closed solenoid valves to operate. U·valve and U·valve+ include a solenoid valve. For other metering elements, a solenoid valve compatible with the fluid and the application requirements must be used.

MODEL	DESCRIPTION	
3120-217	Oil and antifreeze solutions. Brass and NBR	Pressure: 725 PSI (50 bar) Connection: 1/2" NPT (F/F) Power: 24 V DC
3120-218	Coolant, diesel, water,oil. Brass and NBR	Pressure: 725 PSI (50 bar) Connection: 3/4" NPT (F/F) Power: 24 V DC
3120-226	DEF; antifreeze and windshield wash solutions, stainless steel and EPDM	Pressure: 145 PSI (10 bar) Connection: 1/2" NPT (F/F) Power: 24 V DC
SOLENOID VALVES FOR COMPRESSED AIR - PUMP CONTROL		
3120-033	Compressed air. Brass and NBR	Pressure: 145 PSI (10 bar) Connection: 1/2" NPT (F/F) Power: 24 V AC
3120-225	Compressed air. Brass and NBR	Pressure: 145 PSI (10 bar) Connection: 1/2" NPT (F/F) Power: 24 V DC

Image labels:
3110-106 & 3110-108
3110-146
3130-110 / 3130-500 / 3130-100
3110-143
3110-141
3110-136
3120-084
3120-079
3120-029
3120-217
3120-218

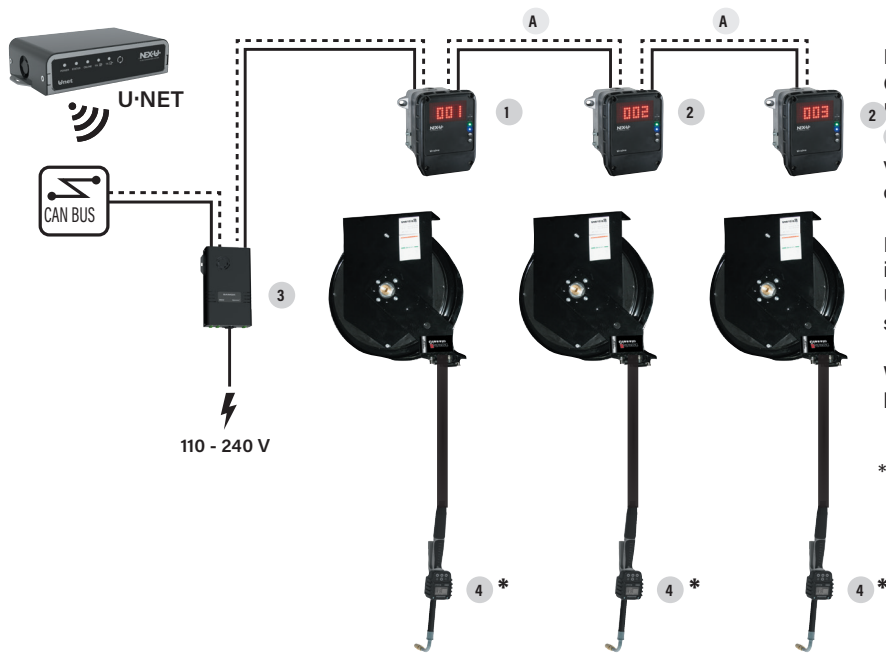## Fluid Inventory Control
Nex▪U▪®

Access through U·dat

CAN BUS cable **A**, transmits power and data between the U·dat keypad **1**, the U·valves **2**, the U·meter+ **3** and the U·view remote display **4**.

Bluetooth° connection is used to communicate each U·valve **2** and U·meter+ **3** with its corresponding U·vision **5** hand-held display.

CAN BUS cable **B** communicates with other NEX·U·® components. Alternatively, if the keypad **1**, is connected to the wireless network, data can be transmitted wirelessly to other NEX·U·® components.

* Dispense input

Access through U·vision+

Power and data are transmited using CAN BUS cable **A** between the U·valve+ **1** and the other U·valves **2**. Power to energize the solenoid valves is supplied by the U·power **3**, connected to U·valve+ **1**.
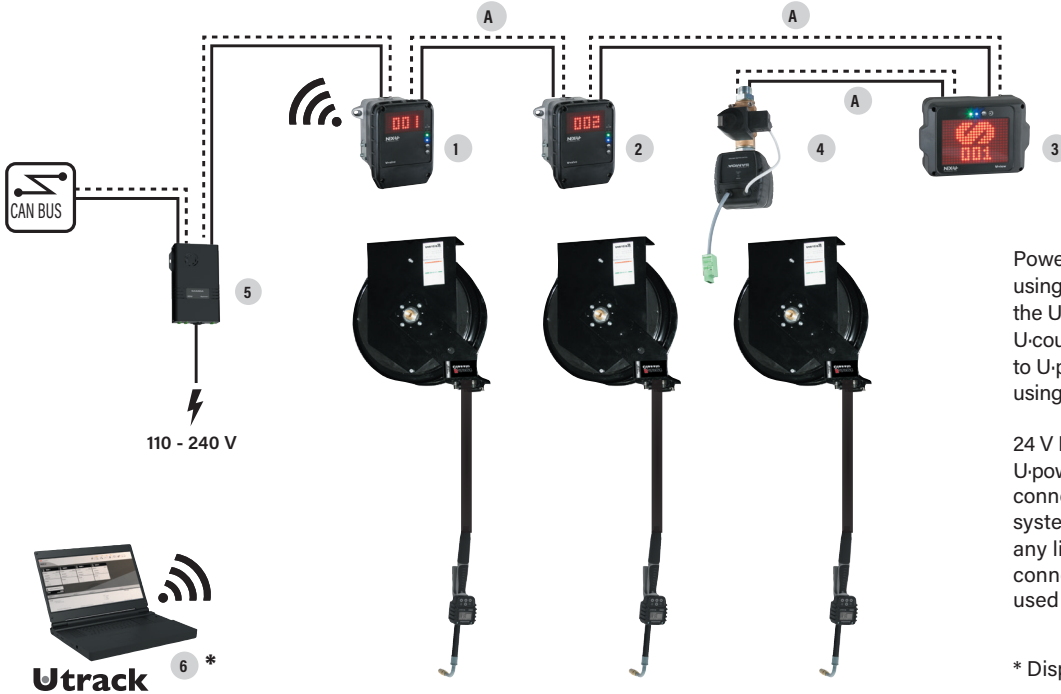
Each U·valve+ **1** and U·valve **2** is connected to its corresponding U·vision+ **4**, hand-held display and systems access Keypad.

Wireless data transmission is done by U·valve+ **1**.

* Dispense input

# Fluid Inventory Control
Nex▪U▪®

PC - Laptop Connection

Power and data are transmitted using CAN BUS cable **A** between the U·valve+ **1** , U·valve **2** and U·count **3** . U·count **3** is connected to U·pulser solenoid valve **4** also using CAN BUS connection.

24 V DC power is supplied by U·power **5** to U·valve+ **1** connecting using Wi-Fi˚ with all system components, including any licensed terminal **6** that is connected to U·track and can be used as a virtual access keypad.

* Dispense input

110 - 240 V

Utrack **6** *

Tank Monitoring
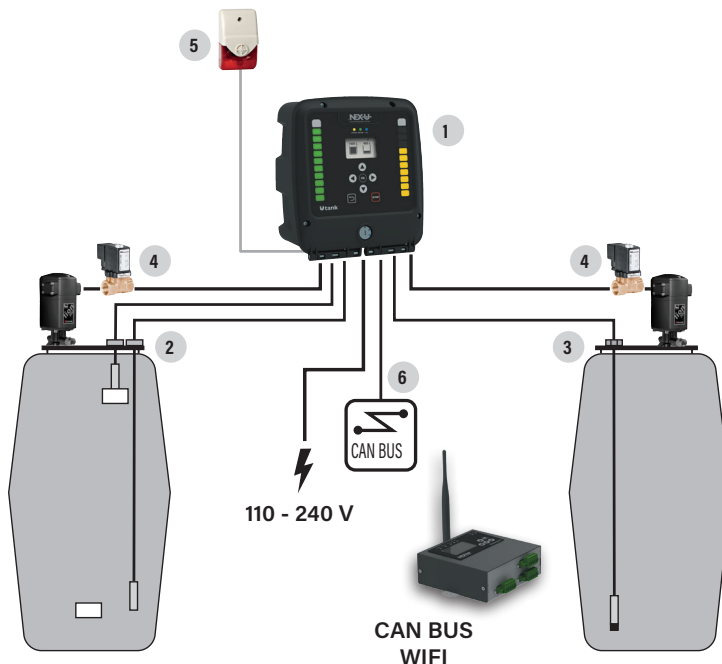
U·tank **1** can monitor up to two tanks. Each tank can be fitted with low and high level sensors **2** or with a pressure gauge **3** for real-time control of the inventory in the tank. U·tank **1** can also control pump operation opening or closing an air solenoid valve **4** that prevents pump from running dry or air entering the oil distribution lines if there is no oil in the tanks.

U·tank **1** can also control a remote flash light or siren **5** to warn when any tank is empty.
U·tank **1** can communicate with other NEX·U·® elements using Wi-Fi ˚ or through CAN BUS **6** wired connection.

110 - 240 V

CAN BUS WIFI

Fluid Inventory Control
Synergy Components

Multi Point Dispense Module, Keypad and LED Display

Multi Point Dispense Module

Keypad

LED Display

MULTI POINT DISPENSE MODULE TECHNICAL DATA

Function	Module controls 4 dispense points/solenoids
Requirements & Limitations	4 outlets/dispense points Limit of 30' 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

KEYPAD 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

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

●●●● CDKGlobal.

Compatible with CDK. A bidirectional communication is established through web service.

Features

Multi-Point Dispense Module
- 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.

Keypad
- 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.

LED Display
- 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 system 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

3110-017	Multi-Point Dispense Module
3130-001	AC Power Cord
3110-016	Standard Keypad, 6' 3 Prong Plus
3110-030	Keypad with Serial Port
3120-068	LED Display
3110-137	CDK - Activation fee
3110-138	CDK - Monthly fee

Balcrank
Fluid Dispensing Systems

Fluid Inventory Control
Synergy Components

PC Interface Module and Printer Module

Printer Module

Features

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, see page 130 for software upgrade, sold separately.
- Operator interface, includes powerful database manager with professional software, page 130

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

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

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

MODELS AVAILABLE	
3110-019	PC Interface Module
3110-018	Printer Module

Product specifications are subject to change without prior notice

Fluid Inventory Control
Synergy Components

Tank Surveillance Module and Tank Control Module

Tank Surveillance Module

Tank Control Module

TECHNICAL DATA		
	TANK SURVEILLANCE MODULE	**TANK CONTROL MODULE**
Function	Controls tank monitoring with LED status lights	Controls tank monitoring
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	4 tanks per module Can only be used in the PC based system
Power	Input - 110 VAC, Output - 24 V DC	Input - 110 VA C, Output - 24 V DC

Features

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

Tank Control Module
- The Tank Control Module is used to monitor up to 4 fresh and/or used oil tanks per module using either high/low level sensors or analog probes. Control pumps - automatic start and stop
- Controls air solenoid valves
- 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	
3110-021	Tank Surveillance Module
3110-020	Tank Control Module

Balcrank
Fluid Dispensing Systems

Fluid Inventory Control
Synergy Components

Synergy Web App Keypad

Synergy Web App Keypad

The Synergy Web App Keypad enables increased flexibility, mobility and efficiency by initating Synergy dispenses from a web capable device such as a smartphone, tablet or computer web browser. Using the web app keypad allows a workshop use their own internal IT components, regardless of platform, to perform fluid dispensing operations using Synergy.

COMPONENT TECHNICAL DATA	
Function	Web app keypad enabling fluid dispensing from smartphone, tablet or computer web browser
Requirements	Minimum Synergy version - R10 HTML5 capable web browser and internet connectivity, camera (if the scanner feature will be used)

MODELS AVAILABLE	DESCRIPTION
3110-034	Synergy Web PC keypad interface

Easy set up
- A driver is added to the Synergy engine which communicates with our central WebKeypad Server
- Users and administrators are set up on our WebKeypad Server
- Any devices required to access the system are configured

How it works

When everything is configured the workflow is identical to using regular keypads, such as selecting the reel, entering the PIN and workorder number and finally the volume to be dispensed.

Built-in bar code scanner

The web app keypad features a built-in software based scanner for inputting work order numbers via QR codes or conventional bar codes.

Drivers for external ERP/DMS systems

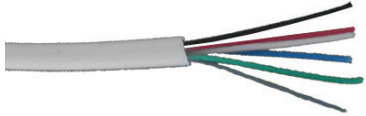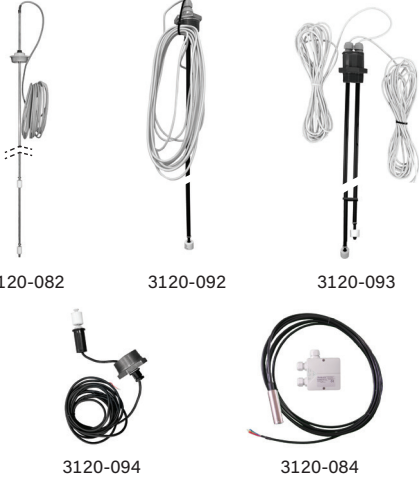Works with all OCP 1.xx based drivers for real-time validating of work order numbers in an ERP/DMS system.

Subscription based

The web app keypad is offered as a service with a montly fee (invoiced annually), this allows your business to easily scale up or down depending on your current needs, providing better overview of the costs. Free support is included for customers with existing Synergy support agreements.

Balcrank
Fluid Dispensing Systems

Fluid Inventory Control
Synergy Components

DR METER - PULSE METERS						
	MODEL	**MATERIAL**	**INLET/OUTLET THREADS**	**UNIT OF MEASURE**	**MAX PRESSURE**	**COMPATIBLE FLUIDS**	**SB**
	3120-013	CPVC	1/2" NPT(F)	Liters, Gallons, Quarts, and pints	450 psi (10 bar)	Glycol, windshield wash solutions and DEF	SB 3107
	3120-007	Aluminum	1/2" NPT(F)	Quarts	1,000 psi (70 bar)	Oil, glycol and coolant solutions	SB 3003

DR METER HIGHFLO						
	3120-014	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	

MODEL	DESCRIPTION	COMPONENT
PROGRAMS & APPLICATIONS		
3120-072	Professional Software. Full-featured PC database. Easy system configuration. Variety of standard & customized reports	
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.	
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)	

3120-082   3120-092   3120-093

3120-094   3120-084

Fluid Inventory Control
Synergy

Example of Mid-Range Synergy System
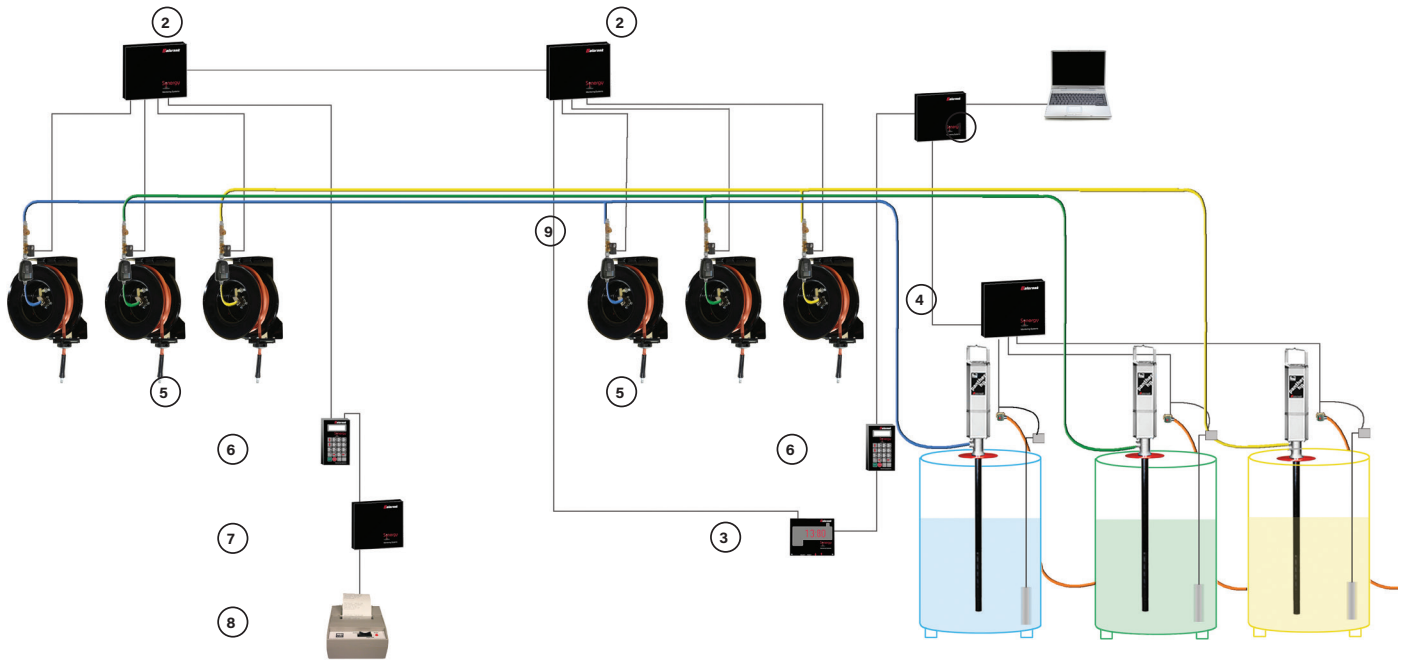
BOM's

1. 3110-019 - PC Interface Module
2. 3110-017 - Multi-Point Dispense Module (MPDM)
3. 3120-068 - LED Display
4. 3110-020 - Tank Control Module
5. Hose Reels x 6 units
6. 3110-016 - Standard Keypads
7. 3110-018 - Printer Module
8. 3120-069 - Ticket Printer
9. 3120-033 - Air Solenoids x 3 units
   Pulse Meter/Solenoid Valve Kits x 6 units - select the meter to match the fluid type.
   See page 131 for meter/valve kits.

Balcrank
Fluid Dispensing Systems

Fluid Inventory Control
Director Jr. 24 V DC

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.


Features

- The Director Jr. is a console designed to monitor and control fluid dispenses in a workshop from a single central location
- The Director Jr. will also manage a solenoid valve to control the air powering the pump.
- 1 fluid to 10 stations.
- Fluid measurement in pints, quarts, gallons, or liters.
- Service fluids: motor oils, synthetics, ATF, gear oils, and Anti-freeze (Glycol).
- Totalizing feature for ease of fluid inventory record-keeping.
- Large LED information display.
  Contact Balcrank customer service for V AC units.

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

MODEL AVAILABLE

3110-031	Director Jr Console V DC
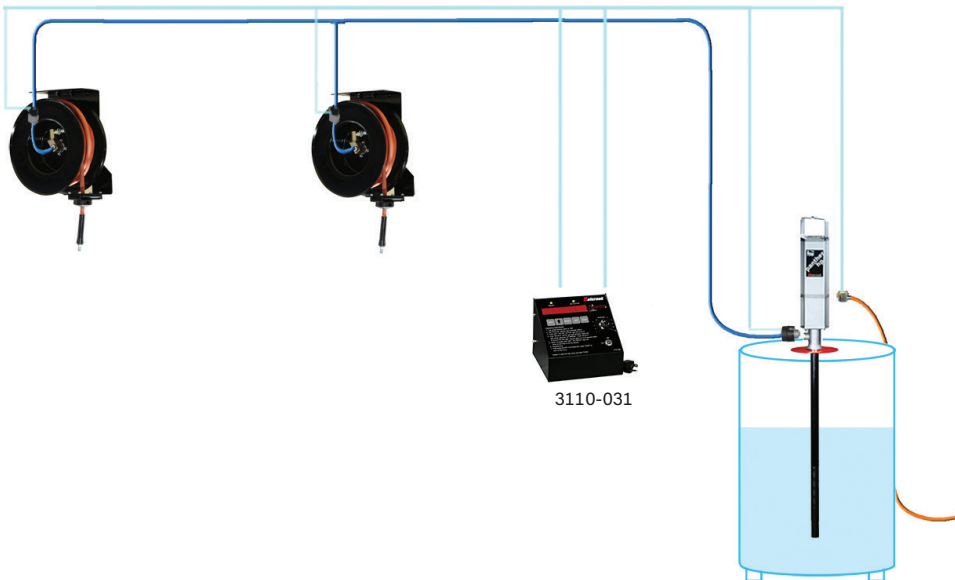
3110-031

BOMs

1 - 3110-031 - Director Jr. Console V DC

2 - 3120-217 - Fluid Solenoid

1 - 3120-033 - Air Solenoid

1 - 3120-114 - Pulse Meter

Balcrank recommends the use of Y-Strainers for use with all FIC systems

Director Jr. 24 V DC Accessories

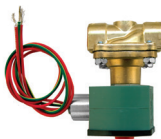| PULSE METERS			
Converts fluid movement into a pulse count signal. Order one per pump: units of measure in quarts, liters, pints, or gallons			
	MODEL	DESCRIPTION	COMPONENT TECHNICAL DATA
	3120-114	Pulse meter Units of measure: Quarts, liters, pints and gallons	Flow: 0.25 - 8 gpm Max working pressure: 1,500 psi (100 bar) Connection: 1/2" NPT(F/F) and flange Accuracy: +/-0.5% Pulses: 1241 PPG / 328 PPL / 310 PPQ Service Bulletin: SB 3099

AIR SOLENOID VALVE			
Air valve provides for the remote control of dispensing pumps from the fluid control console. Order one per controlled pump			
	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
	3120-220	Air Solenoid Valve - Normally Opened	Air Solenoid Provides for the remote shutdown of dispensing pumps from the fluid control console. Order one per controlled pump. Pressure: 150 PSI (10.3 bar) Connection: 1/2" NPT (F/F) Power: 24 V AC

FLUID SOLENOID VALVES			
Fluid valve opens fluid line to the dispensing station when activated by the Director Jr. Order one per dispensing reel/handle.			
	3120-217	Fluid Solenoid Valve	Fluid Solenoid provides for the remote shutdown of dispensing pumps from the fluid control console. Order one per controlled pump. Fluids: Motor oils, Synthetics, ATF, Gear oils, and Anti-freeze (Glycol) Pressure: 3045 PSI (210 bar) Connection: 1/2" NPT(F) Power: 24 V AC/DC
	3120-218	Fluid Solenoid Valve	Fluid Solenoid provides for the remote shutdown of dispensing pumps from the fluid control console. Order one per controlled pump. Fluids: Motor oils, Synthetics, ATF, Gear oils, and Anti-freeze (Glycol) Pressure: 3500 PSI (241 bar) Connection: 3/4" NPT(F) Power: 24 V DC

Y-STRAINER			
For filtering debris after the pump			
	3120-211	1/2" NPT(F)	Max working pressure: 580 psi (40 bar) Material: Stainless steel Includes: Plug 40 mesh
	3120-212	3/4" NPT(F)	
	3120-213	1" NPT(F)	

READY LIGHT			
Alerts technician when fluid batch is available for dispensing.			
	3120-031	Ready Light Alerts technician when fluid batch is available for dispensing.	

Fluid Inventory Control
TM Control

Features

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.

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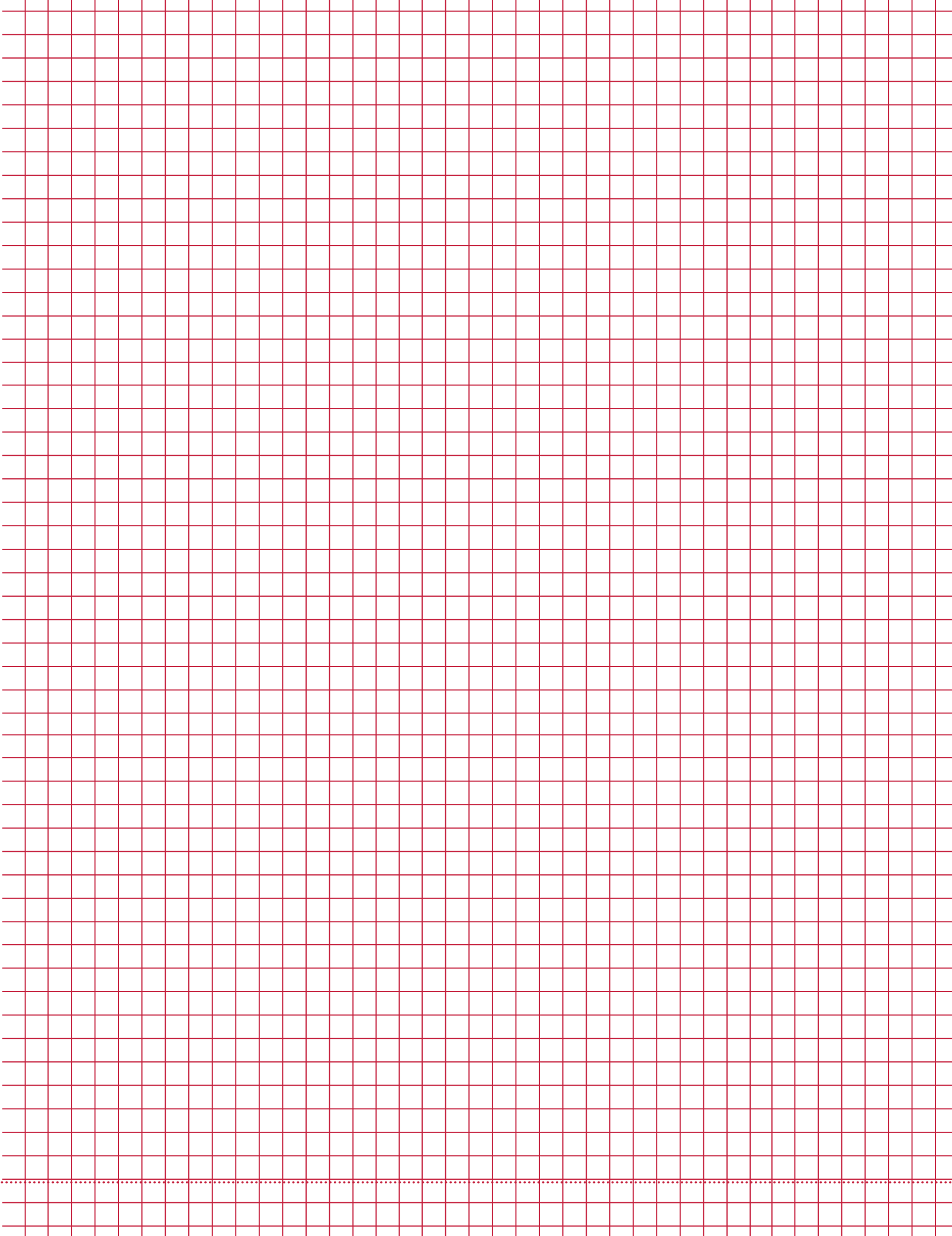- Outputs can be configured to "normally-open" or "normally closed"

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

RECOMMENDED ACCESSORIES

MODEL	DESCRIPTION	COMPONENT TECHNICAL DATA
3120-029	Tank alert strobe alarm	Power: 24 V DC
3120-033	Air Solenoid Valve - Normally Closed	Air Solenoid Provides for the remote shutdown of 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
3120-225	Air Solenoid Valve - Normally Open	Air Solenoid Provides for the remote shutdown of pumps from the fluid control console. Order one per controlled pump. Pressure: 200 PSI (12 bar) Connection: 1/2" NPT (F/F) Power: 24 V DC

TANK SENSORS

Tank sensors (switches provide low level/high level responses, depending on model)

MODEL	DESCRIPTION
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

3120-092   3120-093   3120-094

MODELS AVAILABLE

3110-033	TM Control

Product specifications are subject to change without prior notice

Balcrank
Fluid Dispensing Systems

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www.shopbalcrank.com

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• Pricing

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