nCompass-DX Interface for Dixell CX Refrigeration Controls
Specifications and Part Number Matrix
January 2015

What is nCompass-DX?

The nCompass-DX is a 4.3" color touch screen interface connecting to a single Dixell Prime CX or XW60K control via the Dixell's optional XJ485-CX external module. nCompass-DX is compatible with the XW60K and CX Series (XR40CX, XR60CX and XR70CX) Dixell controllers.

The nCompass-DX system combines all of the features of the Dixell Prime CX and XW60K refrigeration controller with an embedded SCADA (supervisory control and data acquisition) into a single / intuitive to use device. LAN features include Email/SMS (text messaging) on alarm, FTP (file transfer protocol) and remote view/control (Web server/VNC server) are standard with nCompass and can be accessed via LAN/WAN using a PC, tablet or smart phone device.

nCompass-DX Applications

Applicable for any appliance controlled by a Dixell Prime CX or XW60K controls where flexible out-of-the box LAN capabilities and/or SCADA functions (data logging, alarm monitoring, operator audit trail, etc.) are required to meet internal Quality, Regulatory or HACCP protocols now or in the future.

nCompass-DX - an International Product

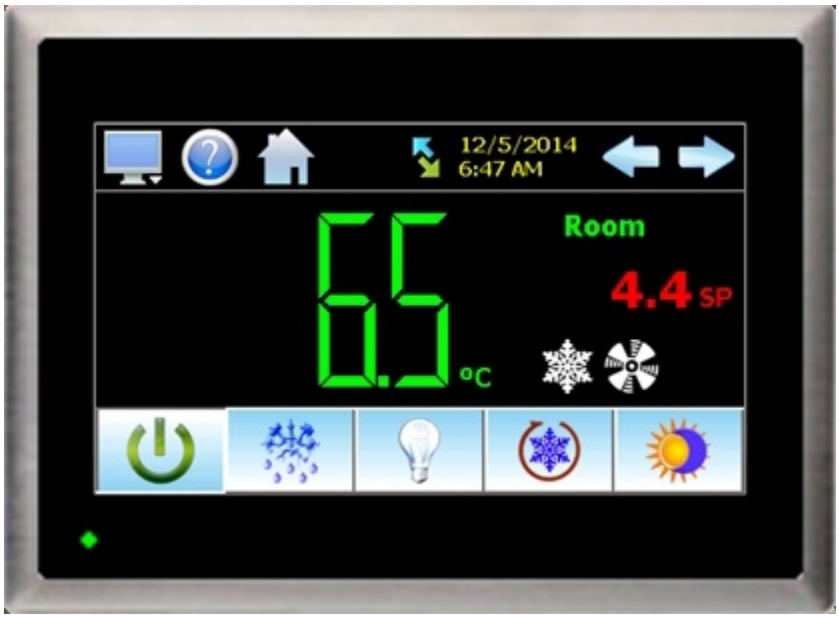
A truly international product, nCompass may be configured in any one of 28 languages providing ease of use almost anywhere in the world.

nCompass is OEM Friendly!

For the OEM, most of the nCompass-DX configuration is handled automatically matching the Dixell-CX and XW60K control configuration when connected. OEM specific runtime features (screen availability, menus, language, etc.) are easily configured to meet their requirements. The OEM configuration can be imported/exported to any other nCompass-DX device for setup within minutes as well as an OEM configurable “reset default settings” utility to allow the end user to reset the system to the OEM’s configuration settings.

If you can use a Consumer Phone or Tablet, you can use Compass-DX

nCompass-DX provides intuitive operation, user configurable with **"Smart Device"** user interface features similar to consumer smart devices (iPhone, iPad, Android, etc.) or configurable with a traditional Windows style drop down menu system. The intuitive operation requires less training and minimizes operator error. A Help icon on every page with "touch flow" finger scrolling provides the user content sensitive information for every function.



How to Order

nCompass-DX is ordered as 2 components with optional power supply and connecting cable.

nCompass-DX Sample Part Numbers

(minimum of 3 component part numbers is required; (1) display, (2) firmware, (3) loop #1 with (4) loop #2 if required.)
(dual loop shown)

Item #	Product	Sample Part Number	Description
1	Display	FDC-0450-1011-000BN	4.3" display, 11-36 VDC power input, SD slot, Ethernet, standard enclosure
2	LC Firmware	SD-DX	DX Loop Control Firmware (inserted into display SD slot)
	Options		
	Power Supply	PS5R-SD24	85-264VAC power input, Output 24VDC 15W (0.6A)
	Cable	CA2011-3D	Cable from Display to the Dixell XJ485-CX connector, twisted pair leads, shielded (3-Meters)

Item #1 — Model FDC - 0450 4.3" Color Touch Screen

FDC - 0450 – [1] [0] [1] [1] [0] [0] [0] [B] [N]

Order Matrix # 1 2 3 4 5 6 7 8 9

(1) Power Input
1: 11 to 36 VDC

(2) Sound Output
0: None

(3) SD Card Slot
1: Yes

(4) Ethernet
1: Yes

(5) Network
0: None

(6) Software
0: None

(7) Enclosure
0: Standard

(8) Special
B: Black Overlay

(9) Special
N: Neutral Overlay (no name/logo)

Item #2: Loop Control Firmware

Order Matrix # [SD] - [DX]

(Fixed characters SD-LC: SD card with LC (Loop Control) Display Configuration and SD plugged into display)

Control System Options *(ordered separately as appropriate)*

Cable: Display to Dixell XJ485-CX communication port
CA2011-3D: Cable (3 Meters) from Display to XJ485-CX.
Note: Consult factory for other lengths & options)

Display Power Supply (input 100-240VAC / Output 24VDC)
DIN Rail Mount: PS5R-SB24: 15W power supply (0.6A)
Open Frame: PS3X-B24AFC: 15W power supply (0.6A)

Note: Either of the above will power the FDC-0450 touch screen display

USB Memory Stick
UDF115-2GB: (2GB High Capacity USB Memory Stick (3VDC))

System Reset Timer
GE1A-C10MA110/SR2P-06: Reset Timer and socket (DIN Rail)

Note: Timer is recommended for proper system restart due to momentary power interruptions (<500ms) which can erroneous operation.

Printed Operators Manual
Part Number (Orion_nCompass_DX i4.3_User_Manual.pdf)
FDC-Orion nCompass-DX i4.3 Installation and Operational Manual RevC.

Printed Communication Reference Manual
Part Number (Orion-nCompass_DX_i4.3_Comm Reference.pdf)
FDC-Orion nCompass-DX i4.3 Communication Reference Manual RevC.

USB Cables & Accessories
IStick-4X-CVR USB Panel Mount Adapter-Nema4x
USB Cable/Panel Consult factory for referral to low cost cables

NOTES: SCADA (Supervisory Control & Data Acquisition)

FDC-nCompass Series Graphic User Interface (GUI) touch screen provides a full SCADA feature set providing ease of use with either an icon menu system with finger navigation or traditional Menu bar, data acquisition, alarm manager, operator audit trail, multi-level security with user rights, LAN connections and more.

The GUI provides ease of configuration, use & support.

- System Configuration for probe indication, alarms, Help, Language selection and more, all without an external device or PC.
- Control Views: view 1 or 2 probes in single or dual view as well as in a Trend format.
- Trend Views: 4 Trend Views to view up to 6 values per view for all temperature inputs, Setpoint and Compressor percent output configurable on L/R axis and time
- High/Low Temperature Monitor: The room (probe #1) min/max temperatures may be viewed by pressing the PV field digits (room temperature). These values may also be easily reset.
- File Management: View, copy/move Profile, Alarm, Historical Data (data log files) and operator audit trial files. File transfer via LAN features or USB flash memory.
- LAN: Remote Access & touch screen operation (VNC), email/SM on alarm, email historical, alarm & audit trail files on-demand, Web Page (view only) and FTP of alarm, audit and historical data files automatically or on-demand.

Data Acquisition:

- Data log PV for all probes, SP and compressor output on/off.
- Log interval: configurable 2 seconds to 31 minutes with configurable number of days to auto start & name next file (1 to 31 days).
- File Start/Stop: Configurable; operator on-demand, on system boot, profile ramp-soak start/end or digital inputs
- File Interval: Once started a data log file is configurable to auto end and start new file with the same name as previous file with an appended time/date name. Configurable time interval is from 1 to 31 days.
- File name: Operator entered file name, batch & lot number with all file names appended with date-time to file name
- Operator Comments/Events: Unlimited operator comments/events linked to each data log file.
- File Type: Data Log files are saved in .csv format.
- - Digital Signatures: Automatic system signature as well as user entered digital signatures for each data file are supported. Digital Signatures allow the data file to be validated (data has not been altered). Files may be validated on the display or on a PC with Orion-M Data Viewer ***** software.
- Historical Data File: View data log files on the display. Chart is auto-scaled on an X & Y axis for time and units. After data is copied/moved via LAN (FTP or email) or USB Memory, may be viewed on PC utilizing Excel or FDC's free Orion-M Data Viewer*****.

***** Orion-M Data Viewer PC software is a free download providing a tool to validate data log files have not been altered. The Data Viewer software also provides a quick and easy method to view, print and export data log, alarm and audit trail files as well as for data log files, graph the recorded values.

NOTES: Serial Modbus RS485 Communications

nCompass DX includes a serial Modbus RS485 port located on the touch screen display offering serial communication pass-through to simulate the communications interface to the Dixell controller. This pass-through communications allows compatibility with existing Dixell software or devices.

Refer to the nCompass CM Communication reference manual for direction and listing of accessible R/W registers.

NOTES: LAN Ethernet Communication

nCompass DX provides LAN connectivity through an Ethernet port located on the touch screen display.

The LAN features include email/SMS messaging on alarm, FTP (file transfer protocol for automated file transfer/data backup), create emails, email opened data, alarm or audit trail files, remote access (web and VNC embedded servers) and national time server time synchronization as standard. The web and VNC servers allow remote access using a PC, tablet or other smart devices.

NOTES: Power Supply – Optional

Power Capacity Required (Watts) - A base system requires ~10 watts of 24Vdc power for the nCompass user interface. The 15W power supplies offered are sufficient to power display only.

Note: The power supply should be used to power nCompass components only and not OEM or other end user components or devices.

NOTES: Language Configuration

nCompass provides a one-button language configuration for the following languages.

- Afrikaans
- Albanian
- Arabic
- Basque
- Belarusian
- Chinese (Simplified)
- Chinese (Traditional)
- Czech
- Danish
- Dutch
- English
- Finnish
- French
- German
- Greek
- Hebrew
- Hungarian
- Icelandic
- Italian
- Japanese
- Korean
- Norwegian
- Polish
- Portuguese
- Russian
- Spanish
- Swedish
- Turkish

P.O. Box 1196 Bridgeview, IL 60455
888.751.5444 Sales 888.307.8014 Fax

Technical Support: 866.342.5332
http://www.futuredesigncontrols.com

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