



North America Drives Service Introduction

NAM Technical support

Loves Park Factory



■ Loves Park factory-based call center

- Highly experienced support personnel
- Technical and applications support during normal business hours - via phone or email
- 24/ 7/ 365 emergency technical support - via phone
- Onsite technical and applications at published rates plus expenses – published in Industrial price book
- Factory repair center

■ No-charge, direct-access Danfoss support

- Distributors
- OEM Technical support teams
- Customers

*NOTE: NAM Loves Park and Milwaukee phone systems are linked and share a common receptionist – Toll free numbers reach either facility; **800-432-6367** or **800 621-8806***

Live & online support

NAM Hotline Center	Danfoss Drives website
<ul style="list-style-type: none">■ 8:00 AM – 5:00 PM CST<ul style="list-style-type: none">• Limited coverage @ noon hour■ 24/7/365 emergency phone support■ Technical assistance■ Warranty coverage support <p>800 432 6367</p> <p>US_VLT_Techs@danfoss.com</p> <p>US_VLT_TechReps@danfoss.com</p> <p>US_VLT_Apps@danfoss.com</p>	<ul style="list-style-type: none">■ Product and application information<ul style="list-style-type: none">• Software downloads• Start-up & programming guides• preventive Maintenance guide■ Product literature and manuals■ Spare parts identification <p>North America: www.danfossdrives.com</p> <p>Global: www.danfoss.com</p>



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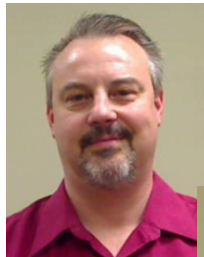


Mike Chermack
Tech Support Manager

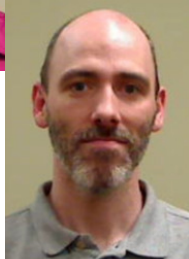
Technical & Applications Support

- Installation/ Start up/ Programming assistance
- Troubleshooting assistance
- Warranty repair or exchange approval
- Spare parts identification
- Pre-sale & post sale applications support

Technical Support team



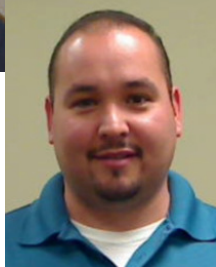
*Steve
Rapp*



*Joe
Hammack*



*David
Boyer*



*Hector
Flores*



*Frank
Foley*

Applications team



*Scott
Cline*



*Jeff
Vornhagen*



*Bruce
Widell*



*Leandro
Tarragona*

US_VLT_Techs@danfoss.com

US_VLT_Apps@danfoss.com

Technical Support Administration



*Stephanie
Ware*



*Melanie
Prunty*

- Technical Support Representatives
 - Service Return authorizations
 - Factory repair quotations and order processing
 - Exchange order processing
 - OEM warranty returns
 - Service Partner dispatching for warranty repair
 - Warranty parts order processing & tracking
 - New part delivery
 - Defective part return

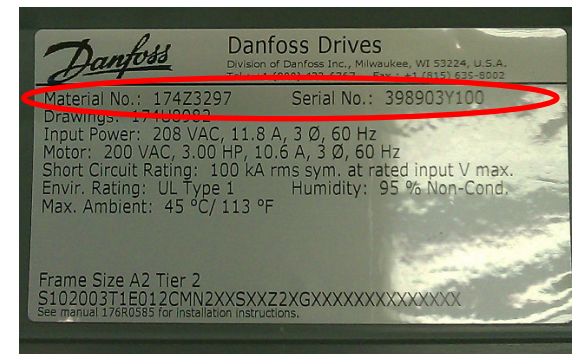
US_VLT_TechReps@danfoss.com

Product Identification – *key to accurate & efficient support*

- Report the product ordering number and serial number
 - Identifies product – improving troubleshooting
 - Identifies warranty and extended warranty status
 - Ensures correct spare parts are identified



*We can work
with either –
both are best*



Drive label on top of drive

Panel label on inside of cover

Warranty Repair - Factory repair OR Field repair by customer

Danfoss Return Authorization (RA) document

CREDIT TO BE ISSUED FOR WARRANTY EXCHANGE OR GOODS
USE THIS DOCUMENT TO THE SUPPLIER (FIELD USE)
PRODUCT NO. DANF003

USE THIS REFERENCE SHEET TO RETURN
DEFECTIVE UNIT/PARTS TO DANFOSS

This document must be placed on the outside of the package
with the RA# clearly visible or the shipment will be refused at
the receiving check. If there are multiple packages returning,
please copy number to each package.

Ship returning parts to:
DANFOSS DRIVES
SERVICE DEPT
4001 NORTHBELL STREET ROAD
LONDON, ONTARIO, N6G 1G1

MADE FOR CUSTOMER/REPAIR

Danfoss Return Authorization

RA#



*Display Danfoss RA#
on return package*

■ Danfoss Technical Support

1. Evaluate the customer needs & determine parts required
2. Issue product Return Authorization for repair

OR

3. Ship replacement parts / product for repair by customer
 - Typically minor repairs or replacements

■ Customer

1. Remove product from installation
 2. Package and return product to Danfoss
 3. Reinstall & start product
- OR
4. Install replacement part / product
 5. Return defective part / product to Danfoss (as instructed)

*NOTE: Customer responsible for return freight cost.
Danfoss responsible to replacement freight cost*

Warranty Repair – Field repair by Danfoss service partner

*Simple form
saves time by
accurately
communicating
site information*

*Obtain form from
Technical Support*

■ Danfoss Technical Support

1. Evaluate the customer needs & determine parts required
2. Obtain completed Service Request Form from customer
3. Initiate service order and parts order

■ Service partner

1. Schedule visit with customer
2. Receive parts
3. Verify diagnosis & material needs
 - Consult Danfoss if additional material/ second trip is required
4. Make repair
 - Return defective and unused parts

**NOTE: Standard warranty covers parts and repair labor -
Customer is billed for travel time and expense unless covered
by Onsite Extended Warranty**

NAM Factory Repair Service

Loves Park Factory

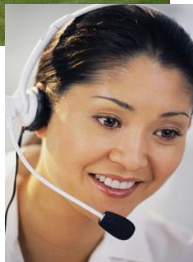


■ Warranty & non-warranty repair service

- Original equipment parts
- Assembled and tested to factory specification
- Flat-rate repair pricing by power rating - Industrial price book
 - Discounted price to Distributors / direct OEM accounts
 - List price to customers
- Expedited service available

Service Sales

Milwaukee Factory



- Milwaukee factory-based call center
 - Highly experienced support personnel
 - Live parts ordering and onsite start-up service support during normal business hours - via phone or email
- Service partner network management
 - Recruiting and on boarding process
 - Partnership agreement process
 - Non-warranty dispatch process
 - Financial and performance management
- Service product management
 - Contract management
 - Inside & field sales assistance

Onsite support



■ NAM DrivePro service partner network

85%	10%	5%
Electronics service companies	Combination Danfoss distributor and Service Partner	Contractors and other value-added customers
Service most brands of drives	Sell & Service Danfoss Drives	Supporting their end customers only

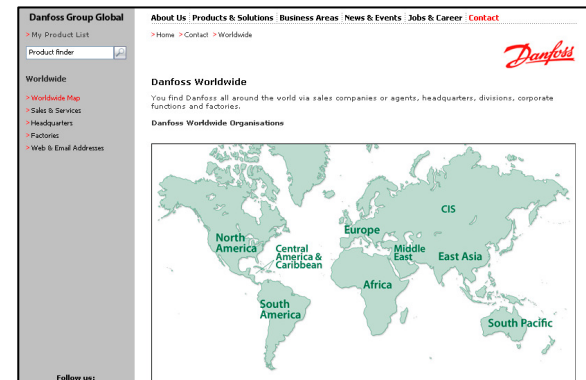
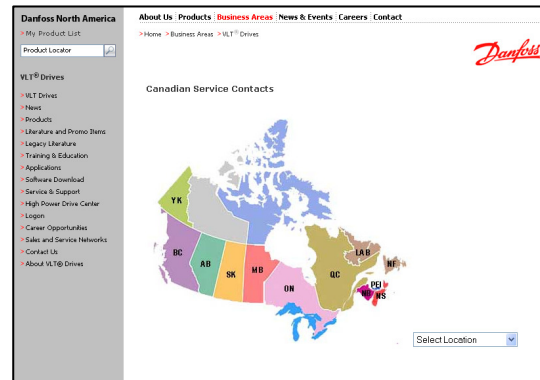
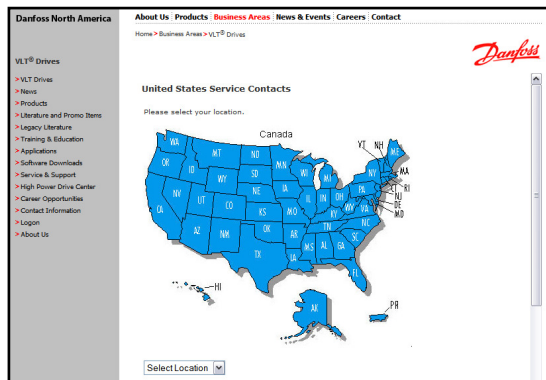
■ Distributors & OEMs work with service partners

- Contract directly for non-warranty support
- Provide drives and other products
- Utilize to support OEM and other products

■ Service offices located in 160+ countries

- Danfoss products exported from North America are supported world-wide

Service contact information



- Service contact information is available online www.danfossdrives.com
- Locator maps list Service contacts in the US, Canada and world-wide
- *In progress: NAM service partner company profiles online*

Service Sales & Partnership Administration



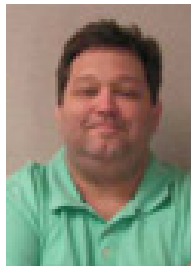
Danty Brown

■ Service Partner Network Manager

- Qualify and authorize service partner companies
- Manage partner relationships and service sales office processes



Cherita McKay



Mike Sauber



Sally Davis

■ Service Sales Representatives

- Assist with spare part identification
- Process spare parts orders
- Dispatch Service Partners for start up and other non-warranty onsite services
- Process Service Partner invoices

usdd0608@danfoss.com

Service Partner on-boarding process

■ Prospective partner selection

- Recruited by Danfoss
- Suggested by Rep, Distributor or OEM account

■ Approval

- Prospect completes Danfoss application
- Danfoss regional Sales Managers approve prospective partner

■ Qualification

- Danfoss SP Network Manager provides SP agreement document
- Prospect approves agreement terms
- Prospect technician(s) successfully completes certification training

DrivePro Service partnership application

Danfoss DrivePro is a leading provider of professional drive support services. Danfoss DrivePro is a leading provider of professional drive support services. Danfoss DrivePro is a leading provider of professional drive support services.

Company Information

Company name: _____ Company type: _____

Address: _____

City: _____ State: _____ Zip: _____

Country: _____

Phone: _____ Fax: _____

Website: _____

Declaration of Interest

I, _____, declare that I am a qualified professional drive support technician and I am interested in becoming a Danfoss DrivePro Service Partner.

I agree to the terms and conditions of the Danfoss DrivePro Service Partnership Agreement.

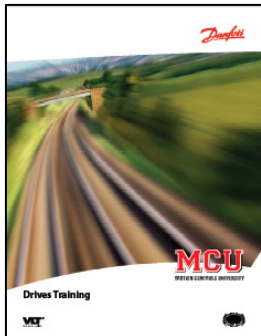
Signature

Signature: _____ Date: _____

*Danty Brown
provides
application form*

Service Partner Certification Training

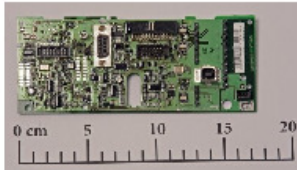
*Motion Control
University
conducts training
& certification
testing*



*Schedules &
pricing online @
partner extranet*

- Technician qualification test
 - Required before attending Service Certification training
 - Prerequisite: electronic and/or electrical background
 - Online test - 30 questions (+/- one hour)
 - No charge & no prep time
- Factory training option I
 - Once per year @ Loves Park IL training center
 - 4.5 day class room and lab
 - Tuition \$595 + expenses
- Online / hands-on training option II
 - Self-study time required
 - Completion of 5 online sessions & 2 day factory lab sessions
 - Completion of both required for certification
 - Multiple online session tracks per year
 - 2 Factory lab session per year at Loves Park
 - Tuition: On-line training \$240 & factory labs \$275 + expenses.

Replacement Parts



Product Details – 130B1109

Control Card for FC-302

Call: 800 621 8806
or email:

usdd0608@danfoss.com

- North America service parts inventory
 - Original equipment parts individually packaged
 - Drive parts in Loves Park
 - Panel parts in Milwaukee
 - Some Service Partners also stock parts
 - Public-access online drives parts identification
 - Current production & legacy products supported
 - Parts ID phone support also provided
 - Spare part recommendation lists available
 - Same day shipment – next day delivery available
 - Drop-ship delivery for Distributor & OEM customers
 - Quotations and order processing via phone or email
 - List price to customers
 - Discounted price to Distributors and direct OEM customers

Parts order process



- Identify ordering number
 - A. Utilize online Danfoss configurator
 - B. Utilize fuse price book
 - C. Request assistance from DrivePro Sales team
 - Email preferred; usdd0608@danfoss.com
 - Provide the material & serial number of the unit
 - Provide a description or designator (power board, M1 contactor etc.)
- Fax or email is the fastest way to place an order
 - If ordering by phone, a follow-up hard copy PO must be supplied
- Complete order information ensures prompt processing
 - Purchase order number
 - Billing address
 - Quantity of items
 - Ship-to address
 - Shipping method
 - Contact name & number must be provided for “next day” shipments

Online parts ID

Access Danfoss global website:
www.danfoss.com/BusinessAreas/DrivesSolutions/Drive+Configurator.htm

Configure product or search by part type to find part ordering number & picture

Part number	Type code
130B5160	SPCACBS
spare part, capacitor, DC bus capacitor, single capacitor capacitor 3700µF 20% 20% 450V	
130B1151	SPCBCBS
spare part, circuit board, control board, standard control card/ecc without safe stop	
130B1827	SPCBPO
spare part, circuit board, power boards sparepart/pci-fc-xxx30kh/37knt4	
130B1894	SPCBTC
spare part, circuit board, transducer card sparepart/current transducer card c1 500v	
130B3936	SPEMCBP
spare part, electro mechanics, cables, power cable assy c1, dc-coil cable	
130B3865	SPEMDFH
spare part, electro mechanics, fan, heatsink fan fan assy ext c1/172x150x51 ip55 26w	

FC series replacement fuse price list



*Access on
Distributor's extranet
or request a copy
from Service Sales:*

800-621-8806

usdd0608@danfoss.com

- List of all standard product fuses
 - Ordering numbers by voltage, drive size & function
 - A through F frame drives, bypass and dual motor option fuses included
- FC drive terminal kits, bulk packages of control terminals and control terminal screwdriver
- Printable format for easy reference

Service Sales



Ralph Ewert

■ Service Business Director

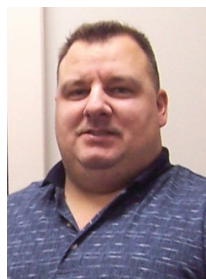
- Service sales & product management



Julie Hinrichs

■ DrivePro Sales Administrator and Regional Sales Managers

- Service product quotations
- Contract order processing & management
- Sales assistance
 - Customer visits
 - Product demonstrations
 - Proposal development



Tim Smith



Gary Yankowski

DrivePro Service Products



DrivePro Service Sales
800-621-8806
usdd0608@danfoss.com

- Complete portfolio of drive service products
 - Replacement parts
 - Start-up and other onsite services
 - Coverage contracts
 - Replacement product programs
- DrivePro Service factory and field sales specialists
 - Service sales training for Distributor and OEM sales teams
 - Service literature, pricing and proposal assistance
 - Customer visit and contract management support
 - Distributor & OEM customer event assistance
- Service prices discounted to Distributors and direct OEM customers

Start-up Service



*Sales literature
available at no
charge:*

www.danfossdrives.com

- Commissioning by Danfoss certified technician
 - Meets typical project specification
- Half day and full day service available
 - Off-hours service and extended-distance trips available
- Enhances customer satisfaction
 - Optimizes drive performance and provides the full value of variable speed control
- Reduces Distributor or OEM support time
 - Details of commissioning scheduling are managed
 - Distributor or OEM team able to focus more time on sales activities

Extended Warranty



*Sales literature
available at no
charge:*

www.danfossdrives.com

- Extended standard warranty is for **new** drives
- Available to extend the drive warranty up to 6 years
 - A differentiator from other drive brands
 - Depot repair (parts and repair labor) coverage extends standard warranty terms - available for North America and exported drives
 - Onsite repair (part, labor & travel) coverage is available in most locations - contact DrivePro sales to ensure availability
- Pricing published in the Industrial drives price book
 - Simple price table based on drive frame-size, coverage type and contract length
 - Distributor multiplier - same as the drive when purchased together or standard drive multiplier when purchased separately
 - Direct customer OEM multiplier - as negotiated
 - Available via IPC online drive ordering tool
- Available for Distributor stock drives at time of re-sale
 - Contact DrivePro Sales for easy-order form

Service Contract

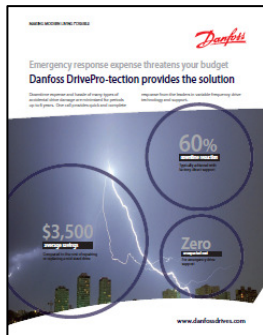


Sales literature
available at no
charge:

www.danfossdrives.com

- Available for drives with **expired** warranties
- Available for one, two or three year terms
 - Drives may be covered out to ten years from date of manufacture
- Drives must be in working order to qualify
 - Performance Inspection (PI) service available to assess condition
 - A drive recently repaired by a Danfoss Service Partner qualifies (no PI required)
- Multiple coverage options
 - Depot Repair (parts and labor)
 - Onsite repair (parts, labor & travel) in many locations
 - Preventive Maintenance (PM) service may be added
 - Contact the DrivePro sales team for pricing and availability
 - Available for North America

DrivePro- tection



*Sales literature
available at no
charge:*

www.danfossdrives.com

- Unique offering for Danfoss brand drives
- Covers accidental drive damage
 - Line or load anomalies - *including lightning strikes*
 - Accidental exposure to moisture or corrosives
 - Accidental collision of other physical damage
- Does not to cover:
 - Product misapplications or abuse
 - Chronic line, load or environment problems
 - Facility catastrophe such as flood, fire, tornado or hurricane
- Available for new or old drives
 - DrivePro-tection EW for new drives up to six years – pricing in the Industrial price book
 - DrivePro-tection SC for drives with expired warranty - contact DrivePro Sales for pricing & availability

SmartStep ■ Coverage and replacement program



*Sales literature
available at no
charge:*

www.danfossdrives.com

- For customers with large populations of aging drives
 - Affordable program to systematically replace drives nearing the end of their service life
 - Minimizes unplanned downtime interruptions & expense
 - Simplifies training & operation customers with multiple brands
 - May reduce customer support staffing requirement
 - Provides one call support for all drives
 - Aligns expenses with customer's budget constraints / capital expense approval process
 - Annual maintenance budget may cover contract cost
- ## ■ Tailored solutions can be developed
- Depot or onsite repair coverage, annual PM, customer training, extended coverage, etc.
- ## ■ Sales cycle is typically long & must align w/ budget
- DrivePro sales team available to assist
 - Collaboration with Service Partners essential

SmartStep

■ Pricing

- Customer price is developed by the selling Distributor in cooperation with Danfoss Service Sales team
 - Replacement labor costs must be assessed by the installer
- Site assessment / drive inventory service by Danfoss service partner is available

■ Contract terms

- 3, 4 or 5 years are the typical contract lengths
 - Replacements can be scheduled evenly over the contract length or front end loaded - payments are adjusted accordingly
- All drives (existing & replacement) covered for the length of the contract
- Danfoss products and comparable competitor drives can be included
- Customer typically makes equal annual payments
 - Alternative payment periods available
- The sales contract is direct between Danfoss and the customer
 - Selling Distributor is paid the delta between the customer price they have developed and the Danfoss price as a sales commission at the time of each customer payment
 - Installer is paid for labor at time of installation / start-up service

EnLease

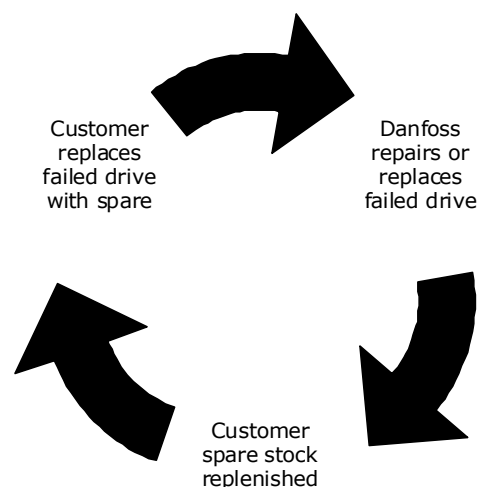


*Sales literature
available at no
charge:*

www.danfossdrives.com

- Lease-to-own financing for drives & services
 - Available in US and Canada
 - 2-5 year term with \$1.00 buyout at end
 - Differentiates Danfoss from the competition
 - Danfoss recommends Start-up service and Extended Warranty be included to ensure customer satisfaction over the lease term
- Suitable for expensive drives or large numbers of drives
- Distributor determines the customer price
 - Danfoss net price + Distributor mark-up
- No waiting for customer payment
 - Finance company pays Danfoss on product delivery – Danfoss pays Distributor mark-up as a commission
- Fast & easy to use customer quote and application process
 - Contact Danfoss Service Sales for EnLease forms and assistance with customer's leasing questions

Spare Onsite Service (SOS)



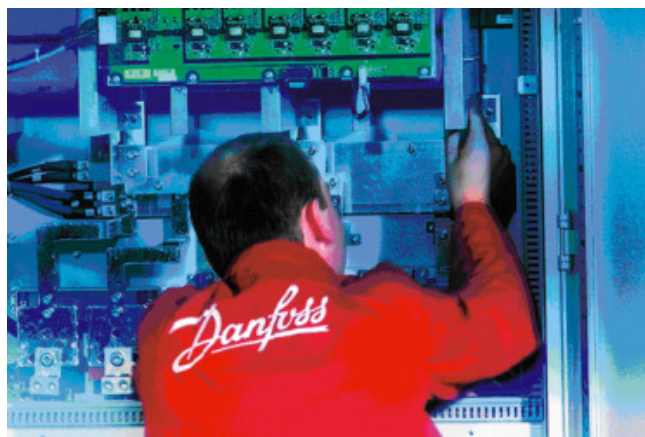
- Coverage for all drives onsite plus one (or more) onsite spare drives
 - Customer determines the number of spares need to address their uptime / security level requirements
 - Customer purchases the spare – enabling them to use it as an emergency replacement or for any other purpose
- Best suited to customers with larger numbers of like-sized drives
 - Irrigation
 - Large water treatment plants
- Customer controls the response time
 - Maximized uptime = maximum revenue generation
- Customized pricing
 - Contact Danfoss Service Sales for a packaged SOS solution or assistance bundling spare drives sale with facility coverage contracts

DrivePro Services

- Collaboration with Distributor or OEM
 - Danfoss services compliment your organization's approach to post-sales customer support
- Contract security
 - Danfoss maintains records of contracts to document the coverage type and end-date each drive by material & serial number
- Service customization possibilities
 - Contact DrivePro Service Sales to discuss customer's requirements for service options
 - Facility assessments
 - Annual preventive maintenance
 - Customer training
 - Spare parts recommendations
 - Alternative payment schedules

DrivePro Service Sales
800-621-8806
usdd0608@danfoss.com

"Danfoss Technical and Applications support provides brand differentiation, aids Distributor & OEM service personnel and builds customer brand loyalty"



"DrivePro services add to Distributor & OEM revenue while increasing customer satisfaction and loyalty"

Service Contact lists are available from your Danfoss Sales Manager