



DTSC-200

Switchgear Control for ATS Operation

DESCRIPTION

I/Os

- **FlexRange™** - True R.M.S. 3-phase voltage measuring inputs for source 1 and source 2:
 - o Rated 120 Vac (max. 150 Vac) **and**
 - o Rated 480 Vac (max. 600 Vac) **in 1 unit**
- True R.M.S. 3-phase load current/power
- Up to 12 configurable discrete inputs
- **LogicsManager™** - up to 9 programmable discrete outputs
- CANopen communication port
- RS-485 Modbus RTU Slave interface port

Monitoring (ANSI #)

- **Source monitoring**
 - o Adjustable fail and restore limits
 - o Overvoltage / undervoltage (59/27)
 - o Overfrequency / underfrequency (81O/U)
 - o Voltage asymmetry (47)
 - o Field rotation
- **Load monitoring**
 - o Overload (32)
 - o Overcurrent (50/51)
- **Switch monitoring**
 - o Switch position plausibility feedback
 - o Transfer failure
- Synch check (inphase monitoring) (25)
- Battery overvoltage / undervoltage
- Parallel time monitoring

Features

- **FlexApp™** Technology (3 application modes)
- **DynamicsLCD™** - 128x64 pixel interactive graphic LC display with softkeys
- Elevator pre-signal
- Motor load disconnect signal
- Configurable trip levels/delays
- Configurable via PC and/or front panel
- 4 status LEDs for source availability and breaker state
- Multi-level password protection
- Multi-lingual capability (2 languages in 1 unit configurable: English, German, other languages on request)
- Event recorder (300 events, FIFO) with real time clock (battery backed; min. 6 years)
- IKD 1 DI/DO expansion board connectivity
- Modem connectivity with DPC cable (P/N 5417-557)
- Remote control via RS-485/CAN / discrete input signals
- Test & no load test mode
- Power seeking

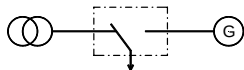
APPLICATIONS

The DTSC-200 provides a high degree of flexibility in a user friendly and intuitive design for use in multiple applications. The graphic display permits the user to interface easily with the controller.

FlexApp™ - This innovative feature provides the flexibility to easily configure the control for multiple applications. The DTSC-200 can easily be configured for use in:

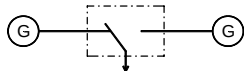
• Utility-to-Generator Application

The utility is supplying the load with a generator as the emergency source



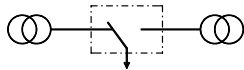
• Generator-to-Generator App.

A generator is supplying the load with a second generator as the emergency source



• Utility-to-Utility Application

The utility is supplying the load with a second utility as the emergency source



DynamicsLCD™ - The graphic LCD provides soft-keys with functions that adapt to the application and operation function.

A galvanically isolated CAN bus port is provided for configuration, communication, and visualization utilizing the CANopen protocol; additional discrete I/O may be added by utilizing the Woodward IKD 1 expansion cards (P/N 8440-141, request detailed information from our sales department).

An RS-485 Modbus RTU Slave full-duplex communication port is also provided for communication and visualization.

LogicsManager™ - The **LogicsManager** permits the user to create completely customized internal operations and control sequences.

Various measuring values, inputs and internal states or constant values may be logically combined using Boolean operators and programmable timers. This enables the user to create and/or modify monitoring and control functions.

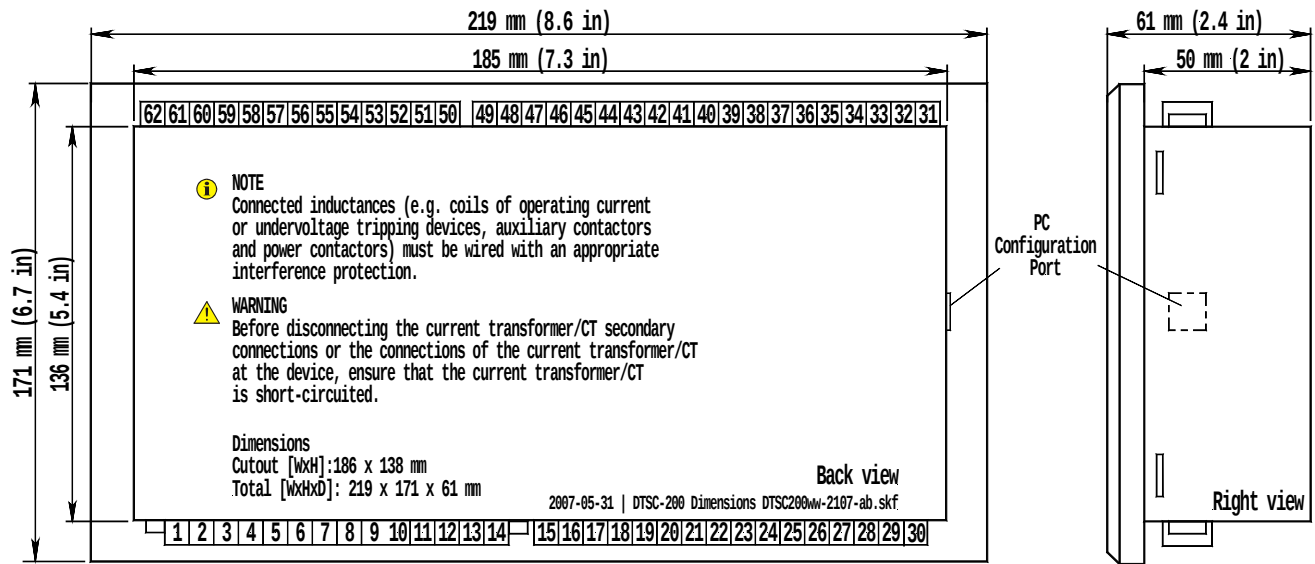
- **FlexApp™** Technology
- For use with breakers and transfer switches
- Transfer inhibit features
- Flexible and multifunctional **DynamicsLCD™**
- True R.M.S. voltage sensing with **FlexRange™**
- True R.M.S. current/power sensing
- Freely configurable discrete inputs
- Fully adjustable timers
- Freely programmable discrete outputs with **LogicsManager™**
- PC and/or front panel configurable
- Status LEDs for source availability and breaker state
- CANopen communication
- Modbus RTU Slave communication
- 6.5 to 40.0 Vdc power supply
- Flush panel mounting
- CE marked
- UL/cUL Listed

SPECIFICATIONS

Power supply.....12/24 Vdc (6.5 to 40.0 Vdc; not buffered)
Inrush current.....max. 50 A peak, 1 ms
Input capacitance.....2000 µF
Intrinsic consumptionmax. 8 W
 in power save mode (backlight, relays off).....3 W
Ambient temperature (operation)-20 to 60 °C / -4 to 140 °F
Ambient temperature (storage)-30 to 80 °C / -22 to 176 °F
Max. operating altitude2000 m (6,500 ft)
Ambient humidity.....95 %, non-condensing
Voltage (both ranges within one unit on different terminals, Δ/Δ)
 100 Vac [1] Rated (V_{rated}).....69/120 Vac
 Max. value (V_{max}).....86/150 Vac
 Rated ($V_{phase-ground}$).....150 Vac
 Rated surge volt. (V_{surge}).....2.5 kV
 and 400 Vac [4] Rated (V_{rated}).....277/480 Vac
 Max. value (V_{max}).....346/600 Vac
 Rated ($V_{phase-ground}$).....300 Vac
 Rated surge volt. (V_{surge}).....4.0 kV
AccuracyClass 1
Measurable alternator windings3p-3w, 3p-4w, 1p-2w, 1p-3w
Setting rangeprimary.....50 to 650,000 Vac
Linear measuring range1.25× V_{rated}
Measuring frequency.....50/60 Hz (40 to 70 Hz)
Input resistance per path.....[1] 0.498 MΩ, [4] 2.0 MΩ
Max. power consumption per path.....< 0.15 W
Current Rated (I_{rated}).....[1] .1 A or [5] .5 A
Linear measuring range $I_{source} = 3.0 \times I_{rated}$,
Burden.....< 0.15 VA
Rated short-time current (1 s).....[1] 50× I_{rated} , [5] 10× I_{rated}

Discrete inputs.....isolated
Input range.....12/24 Vdc (8 to 40.0 Vdc)
Input resistance.....approx. 20 kΩ
Discrete outputs Group A [R 1-4].....isolated
Contact material.....AgCdO
Load (GP)2.00 Aac@250 Vac / 2.00 Adc@24 Vdc
Discrete output Engine Start [R5].....isolated
Contact material.....AgNi 90/10
Load (GP)10.00 Aac@250 Vac
Discrete outputs Group B [R 6-9].....isolated
Contact material.....AgNi 90/10
Load (GP)10.00 Aac@250 Vac
RS-485 interface.....isolated 500 Vac
CAN bus interface.....isolated 500 Vac
Housing FlushType easYpack
Dimensions Flush219×171×61 mm (8.6x6.7x2.4 in)
Front cutout Flush186 [+1.1]×138 [+1.0] mm
Materialglass fiber-reinforced plastic
Connection.....screw/plug terminals AWG 14 / 2.5 mm²
Front.....insulating surface
Protection systemwith proper installation
 FrontIP54 (with clamp fastening)
 FrontIP65 (with screw fastening)
 BackIP20
Weight.....approx. 800 g (1.75 lb)
Disturbance test (CE)tested acc. to applicable EN guidelines
ListingsUL/cUL listed, Ordinary Locations, File No.: 231544

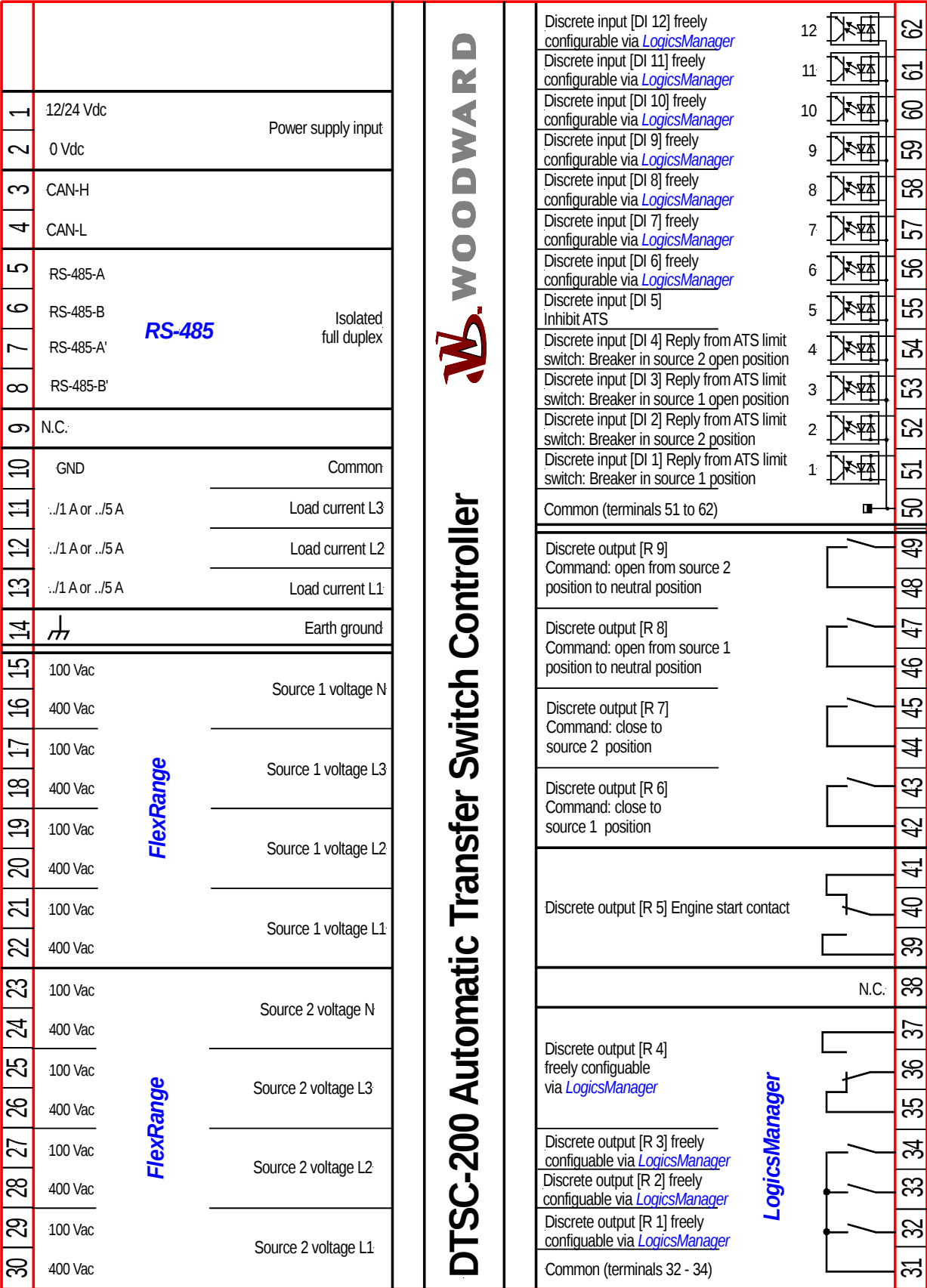
DIMENSIONS



PART NUMBERS AND ORDER CODES

Model	Rated PT secondary <i>FlexRange™</i>	Rated CT secondary	Part Number (P/N)	Description
200	69/120 Vac	..5 A	8440-1779	DTSC-200-55B
	and 277/480 Vac	..1 A	8440-1778	DTSC-200-51B

WIRING DIAGRAM



Subject to technical modifications.

International

Woodward
PO Box 1519
Fort Collins CO, USA
80522-1519
1000 East Drake Road
Fort Collins CO 80525
Ph: +1 (970) 482-5811
Fax: +1 (970) 498-3058

Europe

Woodward GmbH
Handwerkstrasse 29
70565 Stuttgart, Germany
Ph: +49 (0) 711 789 54-0
Fax: +49 (0) 711 789 54-100
email: stgt-info@woodward.com

Distributors & Service

Woodward has an international network of distributors and service facilities. For your nearest representative, call the Fort Collins plant or see the World-wide Directory on our website.

www.woodward.com/power

For more information contact:

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FEATURES OVERVIEW

Digital Transfer Switch Controller		DTSC-200
Measuring		
Source voltage (3phase/4-wire)	rated 69/120 Vac	✓
- True R.M.S.	max. 86/150 Vac	✓
- FlexRange™	rated 277/480 Vac	✓
	max. 346/600 Vac	✓
Load current #1 (3phase/4-wire, true RMS)	..1 A or ..1/5 A	✓
Breaker Control		
Open transition (break-before-make)		✓
Delayed transition (break-before-make) + timed neutral position		✓
Closed transition (make-before-break)		✓
Application		
Utility to generator		✓
Utility to utility		✓
Generator to generator (2 start signals)		✓
Features		
Programmable elevator pre-signal		✓
Programmable motor load disconnect signal		✓
Transfer commit		✓
Test modes #2		✓
Transfer mode selector #2		✓
Load shed #2		✓
Shunt trip enable #2		✓
Extended parallel time #2		✓
Automated display backlight shutdown selectable		✓
Daylight saving time		✓
Source priority selection #2		✓
Vector group adjustment for in-phase monitoring		✓
Fully adjustable timers #3		✓
Status LEDs for source availability and breaker state		✓
Accessories		
Soft-keys (advanced LC display)	DynamicsLCD™	✓
Configuration via PC #4		✓
Event recorder with real time clock (battery backup)		300
Flush-mounting (screw or clamp fastening)		✓
Monitoring		
	ANSI#	
Source: voltage	59/27	✓
Source: frequency	810/81U	✓
Source: voltage asymmetry	47	✓
Source: rotation field		✓
Load: overload	32	✓
Load: overcurrent	50/51	✓
Switch: plausible switch position		✓
Switch: transition failure		✓
Battery: voltage		✓
Synch check (inphase monitoring)	25	✓
Parallel time monitoring		✓
I/Os		
Discrete inputs (configurable)		12
Discrete outputs (configurable)	LogicsManager™	9
Direct configuration interface #4		✓
CANopen communication bus (isolated)		✓
RS-485 Modbus RTU Slave full/half-duplex (isolated)		✓
Listings/Approvals		
UL/cUL Listed		✓
CE Marked		✓

#1 Selection during order; both ..1/5 A (standard) or both ..1 A (alternatively)

#2 via internal conditions or remote command

#3 neutral delay timers (1 to 6500 s), elevator pre-signal timers (1 to 6500 s), motor load disconnect timers (1 to 6500 s), stable timers (1 to 6500 s), outage timers (0.1 to 10.0 s), engine start delay timers (1 to 300 s)

#4 Cable incl. software necessary (DPC = Part Number P/N 5417-557)