

INTRODUCING POLYSPEDE DIGITAL DC DRIVES



POLYSPEDE

The Polyspede digital DC drive is probably the most powerful on the market today

With an extensive range of standard software blocks, it can take control of the most demanding motion tasks. All models include 40 character alpha-numeric back-lit display, full set of center winding blocks and a field weakener for extended speed range. A high quality product from a world class company. UL, cUL and CE approved.

Available in both 2Q and 4Q versions, the range comprises 3 very compact chassis sizes with models rated from 5 to 265Kw.

INCLUDES FREE SPEDESTER CONFIGURATION AND MONITORING SOFTWARE

Key Features

Friendly-easy to use menu structure with English language parameter names.

Extremely flexible block diagram, including unique "Configuration Checker," detects shorting of user-programmed block diagram output connections.

Free Spevester drive configuration and monitoring software.

Failsafe automatic "Revert to AVF" on speed feedback failure.

Ultra compact sizes offering significant panel space savings over other manufacturers.

Programming menu is designed for rapid travel to desired parameter using ergonomically designed keys.

Five feedback transducer options as standard.

Non volatile trip alarm memory, even after power-down.

Real language parameter description eliminates need for look up tables.

UL, cUL and CE approved.

Built in "Oscilloscope" output for full parameter monitoring.

Three fully independent, user-programmable drive configurations.

Extensive, multi-function programmable I/O, with over 36 digital & analogue input / output combinations.

Full suite of center winding macros included.

Built in system application blocks with description connection points.

Electronic regenerative stopping facility on most 2Q models.

In-depth fault monitoring and comprehensive system alarms.

Serial communications to allow off site programming and remote diagnostics.

Diagnostic facility available from on-board display & "in-built meter".

On-board fully controlled field with five operating modes.

Easy to use product manual with display graphics and block diagrams

Full suite of built in encoder functions as standard.

SPEDESTER DRIVE



LARGE 40 CHARACTER BACKLIT ALPHANUMERIC LCD DISPLAY

FRIENDLY EASY TO USE MENU STRUCTURE WITH ENGLISH LANGUAGE PARAMETER NAMES

5 - 75 HP

100 - 200 HP

250 - 350 HP

Rating & dimensions

SPEDESTER 2 QUADRANT	SPEDESTER 4 QUADRANT	HP @460V	kW @460V	Armature Current DC Amps	Field Current DC Amps	Dimension (HxWxD) Inches
D2Q1-50	D4Q1-50	5	3.7	9	8	11.4 x 8.5 x 6.9
D2Q1-100	D4Q1-100	10	7.5	18	8	11.4 x 8.5 x 6.9
D2Q1-150	D4Q1-150	15	11.0	24	8	11.4 x 8.5 x 6.9
D2Q1-200	D4Q1-200	20	15.0	36	8	11.4 x 8.5 x 6.9
D2Q1-250	D4Q1-250	25	20.0	44	8	11.4 x 8.5 x 6.9
D2Q1-300	D4Q1-300	30	22.5	51	8	11.4 x 8.5 x 6.9
D2Q1-400	D4Q1-400	40	30.0	72	8	11.4 x 8.5 x 6.9
D2Q1-500	D4Q1-500	50	37.0	86	8	11.4 x 8.5 x 6.9
D2Q1-600	D4Q1-600	60	45.0	99	8	11.4 x 8.5 x 6.9
D2Q1-750	D4Q1-750	75	55.0	123	8	11.4 x 8.5 x 6.9
D2Q1-1000	D4Q1-1000	100	75.0	155	16	16.1 x 8.5 x 8.6
D2Q1-1250	D4Q1-1250	125	90.0	205	16	16.1 x 8.5 x 8.6
D2Q1-1500	D4Q1-1500	150	110.0	270	16	16.1 x 8.5 x 8.6
D2Q1-1750	D4Q1-1750	175	132.0	300	16	16.1 x 8.5 x 8.6
D2Q1-2000	D4Q1-2000	200	150.0	330	32	19.9 x 8.5 x 11.6
D2Q1-2500	D4Q1-2500	250	185.0	430	32	19.9 x 8.5 x 11.6
D2Q1-3000	D4Q1-3000	300	225.0	530	32	19.9 x 8.5 x 11.6
D2Q1-3500	N / A	350	265.0	630	32	19.9 x 8.5 x 11.6

This is a highly intuitive 'windows' based software package which requires no previous knowledge of any programming language.

The package can be used in 2 operating modes:

Off-line without a drive connected, the user can create recipes of drive parameters and block connections

On-line with a drive connected, the SPEDESTER can also be used to monitor and adjust the drive parameters.

The PC running the SPEDESTER software is connected to the drive via the PC's standard serial port. The package is designed for ease of use and provides a clear, defined and understandable method for accessing all levels of the drives extensive built-in functionality.

This makes complete system configurations very straightforward and quick.

There are 3 levels of recipe creation and functionality available in SPEDESTER to suit all requirements. They are:

Total recipe (top level) - used to manipulate the entire range of parameters.

Bar sub-menus (2nd level) - used to manipulate each main sub-set of parameters.

Block pages (lowest level) - used to manipulate parameters of individual blocks within the drive. The recipes and sections of recipes may be cut and pasted or printed out.

Key Features

MINIMISES DRIVE SET-UP AND COMMISSIONING TIME

ALLOWS ON-LINE AND OFF-LINE DRIVE CONFIGURATION

EASY TO USE 'WINDOWS' BASED SOFTWARE PACKAGE

CONFIGURES DRIVE APPLICATION, BLOCK DIAGRAM AND SET-UP PARAMETERS

ALLOWS REAL TIME PARAMETER DIAGNOSTICS AND MONITORING

ALLOWS "COPY AND PASTE" OF ENTIRE RECIPES OR SECTIONS OF RECIPES TO IMPROVE SPEED AND EASE OF DRIVE SETUP

CUSTOM PAGE ALLOWS USERS TO SELECT UP TO 16 PARAMETERS DISPLAYED IN BAR GRAPH OR PANEL METER FORMAT

TILE AND ZOOM FACILITY ALLOWS USER TO VIEW AND ARRANGE ANY NUMBER OF SCREENS SIMULTANEOUSLY

UNIQUE "CONFIGURATION CHECKER" AUTOMATICALLY SCANS FOR USER PROGRAMMED CONNECTION FAULTS AND HIGHLIGHTS THE CONFLICTS

THE LAYOUT OF THE DIAGRAM PAGES AND SOFT BUTTONS MIMIC THE DRIVES MENU STRUCTURE

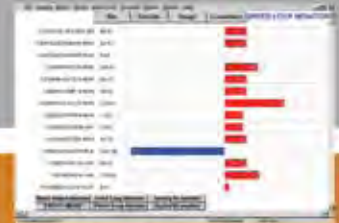
DIAGNOSTIC MONITORING IN ENGINEERING UNITS (VOLTS, AMPS, Kw, RPM, Hz) AND PERCENTAGES FOR ALL TERMINALS AND BLOCK OUTPUTS

EXTENSIVE COLOR DYNAMICS TO ASSIST IN THE DETECTION OF IMPORTANT CONDITIONS

BUILT-IN INTERACTIVE HELP PAGES

INTUITIVE TO USE

SPEDESTER CONFIGURATION & DIAGNOSTIC SOFTWARE



THE BAR SUB-MENUS 2ND LEVEL shows the 4 main menu bars on the Spedeater entry page. These are:

Change parameters

Diagnostics and ancillary functions

Application blocks

Control terminals

Each bar has buttons that allow access to a drive block page.

THE BLOCK PAGES LOWEST LEVEL

Each block has its own page which details its default values (shown in blue text) and any altered values (shown in black text) with its own block diagram. In most cases this alleviates the need for a hard copy of the technical manual - an excellent plus point when commissioning on site!

Diagnostic and monitoring in engineering units (volts, amps, Kilowatts, rpm, Hz) and percentages for all terminals and block diagram outputs can be shown in bar graph or panel meter format.

The software is included free of charge on a CDROM with every digital drive. It makes interconnecting the drive's application blocks a simple task and allows the user to tailor the demands of the process or application. These abilities further strengthen Polyspede's commitment to provide the user with cost effective and easy to use DC drive products.

Specification

RATINGS

POWER CONFIGURATION
 PLX Four Quadrant Regenerative
 PL Two Quadrant Non-Regenerative
 (some PL models have electronic regenerative stopping facility)

Fully controlled variable field supply

ARMATURE VOLTAGE
 $V_{armature} = V_{ac} \times 1.2$

ARMATURE CURRENT RATINGS (A_{dc})
 12, 24, 36, 51, 72, 99, 123, 155,
 205, 270, 330, 430, 530, 630
 Overload 150% for 25 seconds

FIELD CURRENT
 8A (12-123A ratings)
 16A (155-330A ratings)
 32A (430-630A ratings)

FIELD VOLTAGE
 $V_{field} = 0 \text{ to } 0.9 \times \text{Auxiliary AC Supply}$

AC SUPPLY VOLTAGE (VAC)
 Main 3 phase 50-60Hz :-
 12 to 480Vac +/- 10%
 for armature power
 Auxiliary 3 phase 50-60Hz :-
 100 to 480Vac +/- 10%
 for field power

Control 1 phase 50-60Hz :-
 110 to 240Vac +/- 10%
 for control power

PROTECTION

Interline device networks
 High energy MOV's
 Instantaneous over-current
 Field failure & over-current
 Motor over-temperature
 Thyristor stack over-temperature
 Mains supply phase loss
 Mains synchronization loss
 Armature over-volts
 Speed feedback failure
 Stall protection
 Standstill logic
 Thyristor "trigger" failure
 Digital output short circuit



STANDARD SOFTWARE FUNCTIONS

Full suite of center winding macros
 Motorized pot simulator with memory
 2x PID's (undedicated)
 2x Summers (undedicated)
 2x Filters (undedicated)
 Delay timer
 Current Profiling
 Spindle Orientation
 Jog/Crawl functions
 Dual motor swap
 Latch
 Linear or S ramp
 Slack take up
 Batch counter
 Auto self-tune current loop
 3 user programmable drive configurations

ALARM STATUS

First fault latched and automatically displayed.
 Fault automatically saved at power off.

FIELD CONFIGURATIONS

Fixed current
 Fixed voltage
 Field weakening
 Delayed quenching
 Standby field value
 Field economy

ENVIRONMENT

Ambient Operating Temperature
 0-50C (all ratings)
 -25 to +55C storage

STEADY STATE ACCURACY

0.01% Encoder feedback with digital reference.
 0.1% Analogue tachogenerator feedback.
 2% Armature voltage feedback.
 0.01% Encoder + tacho encoder + AVF or encoder-only feedback.
 Maximum encoder frequency 100KHz

INPUTS/OUTPUTS

ANALOGUE INPUTS
 (8 Total - resolution 5mV+sign)
 All configurable
 All have programmable thresholds and 4 voltage ranges
 +/- 5/10/20/30V
 All inputs are over-voltage protected (can also be utilized as digital i/p's)

ANALOGUE OUTPUTS
 (4 Total - resolution 2.5mV+sign)
 1 armature current output
 3 configurable
 All outputs are short circuit protected

DIGITAL INPUTS
 (17 Total)
 All configurable

DIGITAL OUTPUTS
 (7 Total - max 32V - 350mA total)
 Short circuit protected
 Over-temperature and over-voltage protected
 All configurable

MONITORING

All analogue input voltages
 All digital input states
 All analogue output voltages
 All digital output states
 Tachogenerator voltage
 Motor armature volts
 Output power
 AC supply volts

STANDARDS

CE marked to EN50178
 (low voltage directive)

EN50082-2 : 1995
 immunity industrial environment

EN50082-1 : 1997
 immunity residential commercial and light industry

EN50081-2 : 1993
 emissions industrial environment (EN55011 Class A)

EN50081-1 : 1992
 emissions industrial environment (EN55022 Class B)

UL and cUL listed



POLYSPEDE

Reliability fitted as standard

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