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Find the *Etel DS MAX2* at our website: **Click HERE**

## ► POSITION CONTROLLERS

### 600 VDC POSITION CONTROLLERS

#### DSC2V

The DSC2V is dedicated to high power application with current up to 80 Arms and 600 VDC bus. It includes multi-axis controllers capabilities, dual encoder feedback and safety feature to succeed in a wide range of direct drive requirements.

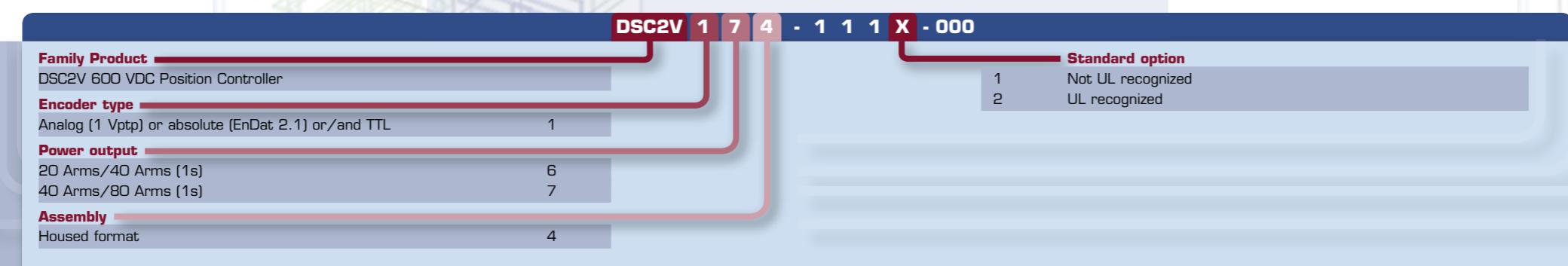
#### Key points:

- Single-axis controller
- Housed format only
- Up to 80 Arms power output
- 400 VAC or 600 VDC power input
- 24 kHz fast position loop
- Direct interpolation of analog encoder (8192)
- Analog (incremental or absolute (EnDat2.1)) or TTL encoder
- Single or dual encoder feedback
- Multi-axis controllers capabilities ( $\mu$ -master mode)
- Multi-axis 100 Mbps fast communication

	DSC2Vx64	DSC2Vx74
Max. full load current (Arms) / Max. overload current (Arms)	20/40	40/80
AC voltage (VAC)	400	
DC bus voltage (VDC)	600	

#### ► Motion Control

Current and position loop sampling time: 41.6  $\mu$ sec (24 kHz)  
 Motion profiles: Trapezoidal / S-curve / Sine / Look-up table / Interpolated (with DS MAX motion controller)  
 $\mu$ -master mode: one DSC2V is used as a TEB master and control up to 30 other axes



#### ► Feedback Interface

Digital Hall effect sensor  
 TTL encoder  
 Incremental analog encoder (1 Vptp)  
 Absolute encoder EnDat 2.1

#### ► Inputs/Outputs

6 digital Inputs and 4 digital Outputs (opto-isolated)  
 1 analog Input (12-bit)

Additional Inputs and Outputs with DSO-HIO optional board: 8 digital Inputs and 8 digital Outputs (opto-isolated) as well as 4 analog Inputs (14-bit) and 4 analog Outputs (12-bit).

#### ► Communication

RS232 serial bus for communication with PC  
 Turbo-ETEL-Bus: Multi-axis fast bus 100 Mbps

#### ► Motion Control Software

ComET: Windows application for commissioning, auto-tuning, programming and monitoring graphical interface software  
 Programming: 6 commands / ms - 8000 lines  
 EDI: Set of libraries for advanced programming

#### ► Fieldbus

CAN\*, PROFIBUS\*, SERCOS and MACRO optional boards  
 (\*page 26)

#### ► Dimensions (HxWxD)

DSC2Vx64	DSC2Vx74
440 x 85 x 280 mm	440 x 118 x 280 mm

## ► POSITION CONTROLLERS

### 400 VDC POSITION CONTROLLERS

#### DSC2P / DSCDP

The DSC2P and DSCDP are ideal to control direct drive motors for both standard and high-performance applications. They are available as a single or dual-axis controller in rack and housed formats.

#### Key points:

- Single and dual-axis controller
- Rack and housed formats
- Up to 40 Arms power output
- 400 VDC power input (rack format)
- 84-280 VAC power input (housed format)
- Up to 24 kHz fast position loop
- Analog (incremental or absolute (EnDat2.1)) or TTL encoder
- Direct interpolation of analog encoder (8192)
- Housed formats with power stage relay and optional motor's short-circuit relay
- Multi-axis controllers capabilities (DSC2P used in µ-master mode)
- Multi-axis 100 Mbps fast communication

Reference	DSC2P.11	DSC2P.21/24	DSC2P.31	DSC2P.32/34	DSC2P.41	DSC2P.42/44	DSC2P.52/54
Max. full load current (Arms) / Max. overload current (Arms)	3.75/3.75	3.75/7.5	5/15	7.5/15	10/30	15/30	15/40
Rack format (400 VDC)	•	•	•	•	•	•	•
Housed format (84-280 VAC)		•		•		•	•

Reference	DSCDPx21/24	DSCDPx31	DSCDPx32/34
Max. full load current (Arms) / Max. overload current (Arms)	3/7.5	3.5/15	7/15
Rack format (400 VDC)	•	•	•
Housed format (84-280 VAC)	•		•



#### ► Motion Control

Current and position loop sampling time:

DSC2P: 41.6 µsec

DSCDP: 55.5 µsec

Motion profiles: Trapezoidal / S-curve / Sine / Look-up table / Interpolated (with DS MAX motion controller)

µ-master mode: one DSC2P is used as a TEB master and control up to 30 other axes

#### ► Feedback Interface

Digital Hall effect sensor (only DSC2P)

TTL encoder

Incremental analog encoder (1 Vpp)

Absolute encoder EnDat 2.1

#### ► Inputs/Outputs

DSC2P: 6 digital Inputs and 4 digital Outputs (opto-isolated)

1 analog Input (12-bit)

DSCDP: 4 digital Inputs and 2 digital Outputs (per motor) (opto-isolated)

Additional Inputs and Outputs with DSO-HIO optional board:  
8 digital Inputs and 8 digital Outputs (opto-isolated) as well as  
4 analog Inputs (14-bit) and 4 analog Outputs (12-bit)

#### ► Communication

RS232 serial bus for communication with PC

Turbo-ETEL-Bus: Multi-axis fast bus 100 Mbps

#### ► Motion Control Software

ComET: Windows application for commissioning, auto-tuning, programming and monitoring graphical interface software.

Programming: 6 (DSC2P), 2 (DSCDP) commands / ms - 8000 lines

EDI: Set of libraries for advanced programming

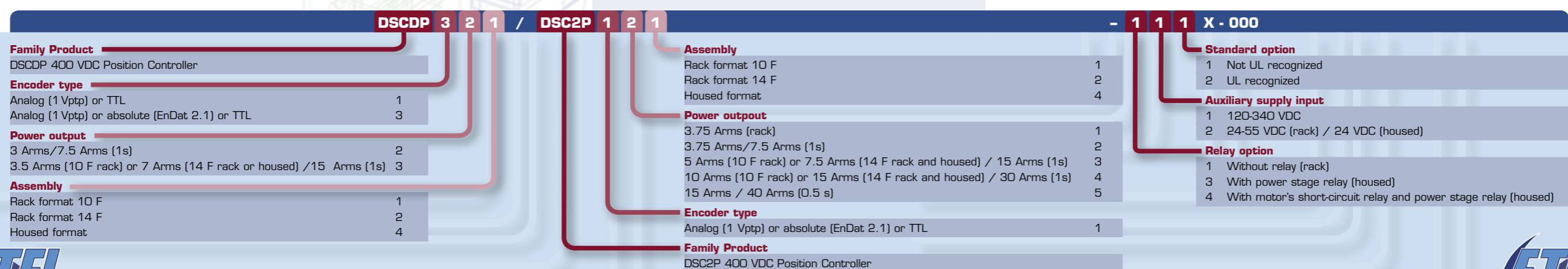
#### ► Fieldbus

CAN\*, PROFIBUS\*, SERCOS and MACRO optional boards

(\*page 26)

#### ► Dimensions (HxDxW)

Rack format	<b>10 F</b>	261.8 (6 U) x 50.6 x 164 mm
	<b>14 F</b>	261.8 (6 U) x 70.8 x 164 mm
Housed format	376 x 72 x 224 mm	



## ► POSITION CONTROLLERS

### 48 VDC POSITION CONTROLLERS

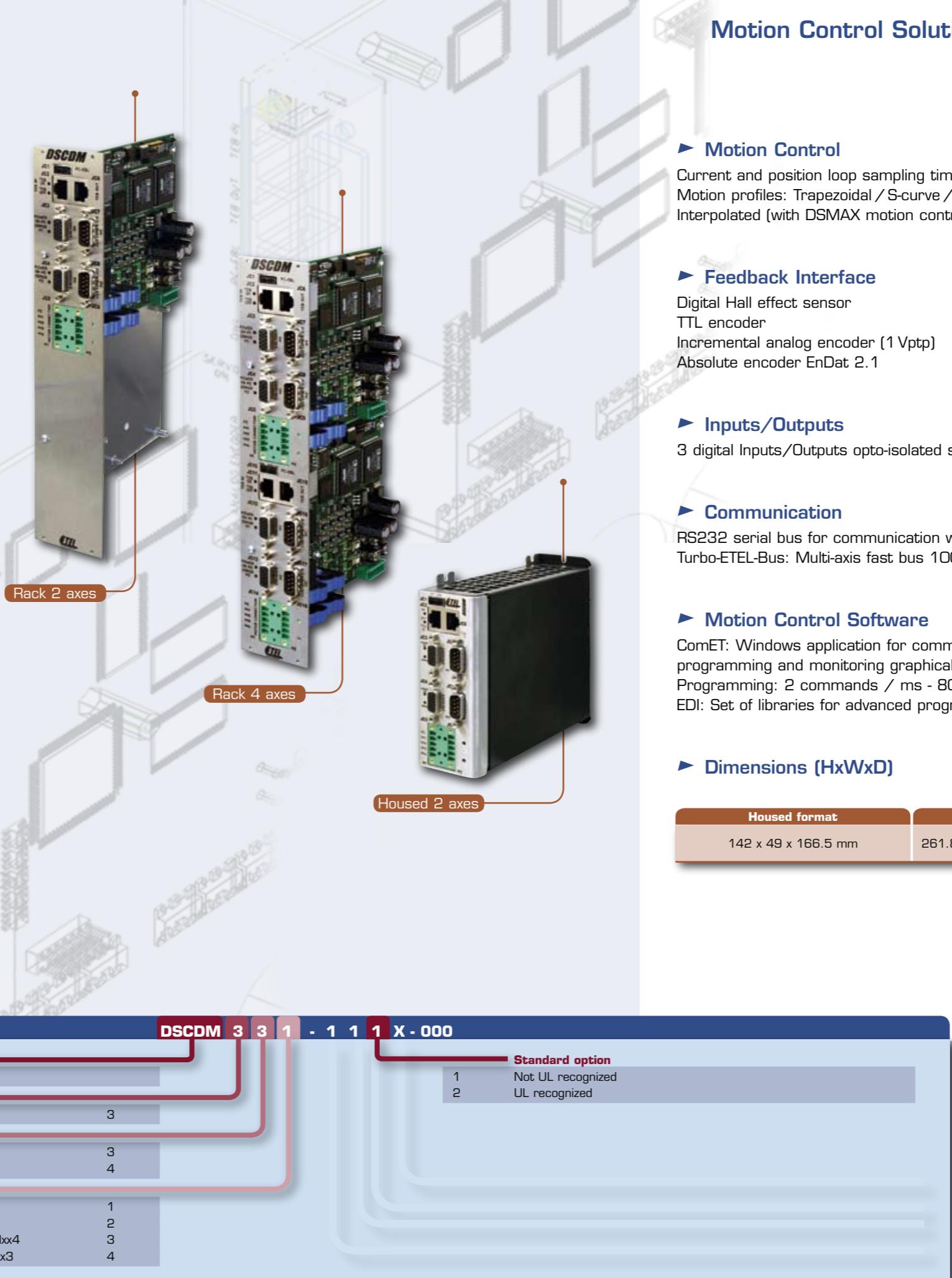
#### DSCDM

The DSCDM is a direct drive position controller for applications requiring lower power output. This controller is ideal for cost-sensitive applications and its small size allows the user to fulfill the most compact machine configurations. For example, one 10 F rack unit can control 4 motors.

#### Key points:

- Dual-axis controller
- Rack and housed formats
- Very compact controller with up to 4 axes in a single rack unit
- Up to 10 Arms power output
- 24 kHz fast position loop
- Analog (incremental or absolute (EnDat2.1)) or TTL encoder
- Direct interpolation of analog encoder (8192)
- Fast capture of position
- Stepper in open loop
- Multi-axis 100 Mbps fast communication

	DSCDM33x	DSCDM34x
Max. full load current (Arms) / Max. overload current (Arms)	2.5/5	5/10
Power supply input (VDC)	15 to 48	



#### ► Motion Control

Current and position loop sampling time 55.5 µsec (18 kHz)  
Motion profiles: Trapezoidal / S-curve / Sine / Look-up table / Interpolated (with DS MAX motion controller)

#### ► Feedback Interface

Digital Hall effect sensor  
TTL encoder  
Incremental analog encoder (1 Vpp)  
Absolute encoder EnDat 2.1

#### ► Inputs/Outputs

3 digital Inputs/Outputs opto-isolated selectable (per motor)

#### ► Communication

RS232 serial bus for communication with PC  
Turbo-ETEL-Bus: Multi-axis fast bus 100 Mbps

#### ► Motion Control Software

ComET: Windows application for commissioning, auto-tuning, programming and monitoring graphical interface software  
Programming: 2 commands / ms - 8000 lines  
EDI: Set of libraries for advanced programming

#### ► Dimensions (HxWxD)

Housed format	Rack format
142 x 49 x 166.5 mm	261.8 (6 U) x 50.6 (10 F) x 164 mm

## ► POSITION CONTROLLERS

### LINEAR POSITION CONTROLLERS

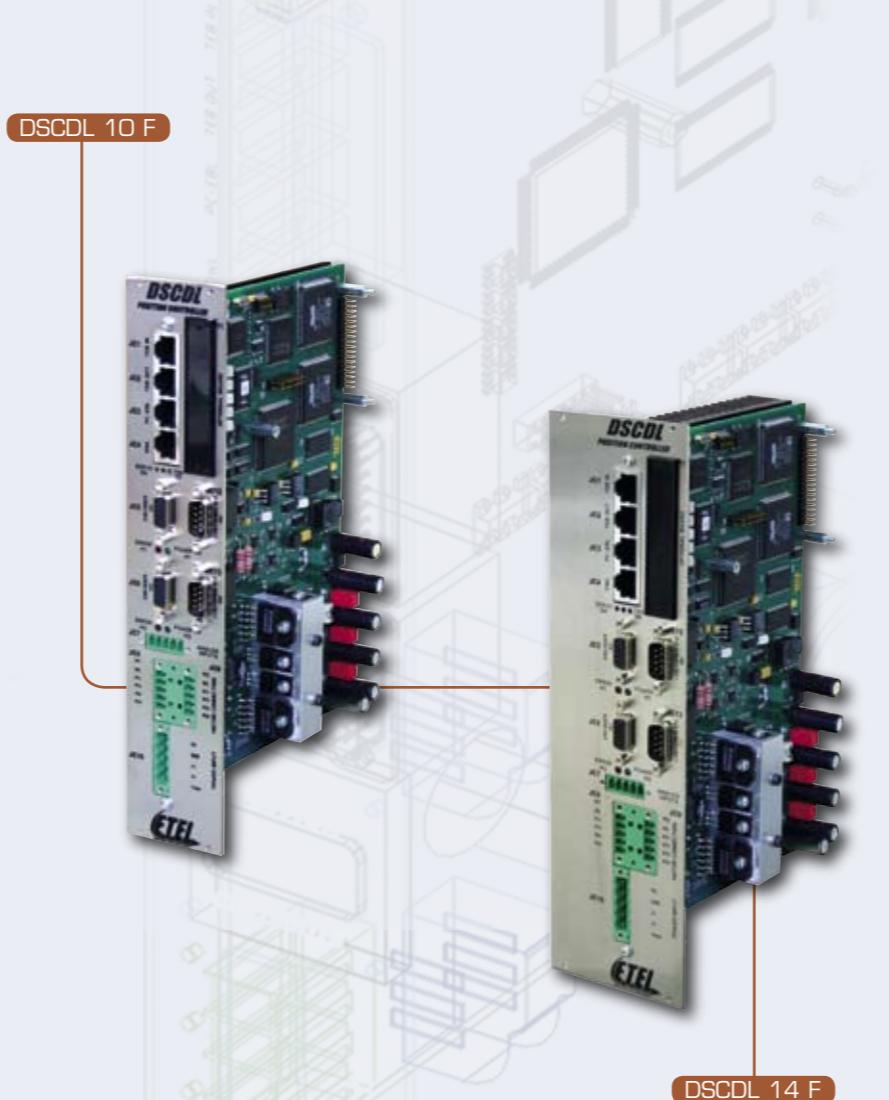
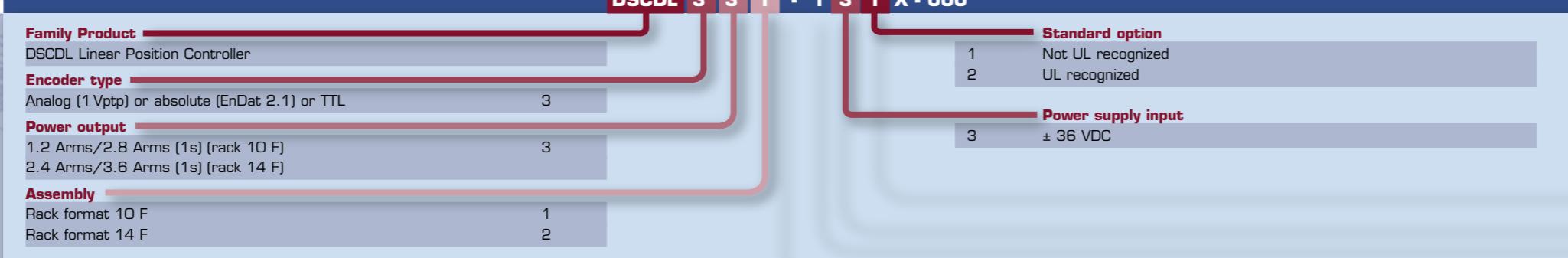
#### DSCDL

The DSCDL is a dual linear amplifier. This position controller is designed for motion control applications with high level of performance where position stability is a key point.

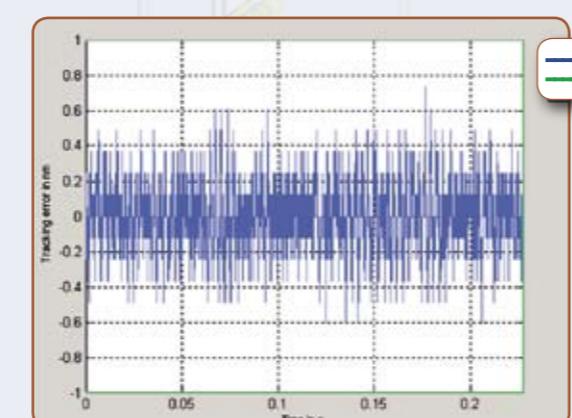
#### Key points:

- Dual-axis controller
- Rack format only
- Linear power stage for very high stability
- Linear output for ultimate position control (nanometer level)
- 24 kHz position loop
- 72 kHz current loop
- Analog (incremental or absolute (EnDat2.1)) or TTL encoder
- Direct interpolation of analog encoder (65536)
- Multi-axis 100 Mbps fast communication

	DSCDL331	DSCDL332
Max. full load current (Arms) / Max. overload current (Arms)	1.2/2.8	2.4/3.6
Power supply input (VDC)	± 36	



EXAMPLE OF ULTRA HIGH POSITION CONTROL CAPABILITY



#### ► Motion Control

##### Sampling time:

- Current loop: 13.8 µsec (72 kHz)
- Position loop: 55.5 µsec (18 kHz)

Motion profiles: Trapezoidal / S-curve / Sine / Look-up table / Interpolated (with DS MAX motion controller)

#### ► Feedback Interface

##### TTL encoder

Incremental analog encoder (1 Vpp)  
Absolute encoder EnDat 2.1

#### ► Inputs/Outputs

4 Digital Inputs and 2 Digital Outputs (per motor) (opto-isolated)  
1 Analog Input (per motor) opto-isolated (16-bit)  
Additional Inputs and Outputs with DSO-HIO optional board: 8 digital Inputs and 8 digital Outputs (opto-isolated) as well as 4 analog Inputs (14-bit) and 4 analog Outputs (12-bit).

#### ► Communication

RS232 serial bus for communication with PC  
TEB: Multi-axis fast bus 100 Mbps

#### ► Motion Control Software

ComET: Windows application for commissioning, auto-tuning, programming and monitoring graphical interface software.  
Programming: 2 commands / ms - 8000 lines  
EDI: Set of libraries for advanced programming

#### ► Dimensions (HxWxD)

DSCDL331	DSCDL332
261.8 (6 U) x 50.6 (10 F) x 164 mm	261.8 (6 U) x 70.8 (14 F) x 164 mm

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