

Nidec

Drives

Digistart D4 & D5

Low Voltage
Soft Starter



Digistart D4 and D5

Key Features and Benefits

Feature	Benefit
Quick Application Setup	Easy commissioning
Simulation Mode	Easy and fast testing during installation and commissioning No need for mains supply and motor
Automatic Timers and Schedulers	Fast and easy automation No need for external logic or timers
Power Through	Minimal downtime on-site Retain most control and protection capabilities
Emergency Mode	Continued operation in emergency situations
USB Port	Easy data retrieval without the need for PC or network No need for adaptor or cable Easy firmware updates Easy and fast commissioning
Pluggable Terminals	Fast installation and unit exchange



Starter for the future

Digistart D4 and D5

Digistart D4 and D5 soft starter sets new standards for soft start technology. D4 and D5 is not only smaller, more powerful and packed with new control and protection features, it also introduces the gamechanging Smart Card capability. Fitting a Smart Card to the D4 and D5 transforms it from super smart motor controller to complete system controller. This is truly a starter for the future.

Soft starter is a type of static converter controlling the voltage applied to an electric motor during startup and stopping, thus helps reduce inrush current and mechanical stress.

Smart does not have to mean complex. While the D4 and D5 offers more functionality than ever before, it has been designed to make your life easier. By enhancing the display and connectivity functions, and making them intuitive, it is easier to access the right information when you need it, enhancing your overall efficiency.

We have designed the user experience to include a comprehensive graphical display, quick setup menus and multiple languages.

It is also easier to connect with other devices and support services. Connectivity has been enhanced with a suite of communication cards to enable network connections and increase accessibility.

The new USB port allows straightforward upload, download and storage of starter performance information, increasing your ability to manage the system effectively.

Scheduling and automation features enable you to tailor operations to meet your site requirements, minimising manual intervention and ensuring continued operation.

The D4 and D5 includes starter, motor and system protection functions, complete with alarms to alert you to any potential issues. In the event that the worst does happen, Power Through and Emergency Run functions give you the power to choose to keep running.

Troubleshooting starting and stopping issues is now easier than ever with the Control Techniques Pocket Technician app. Easily retrieve useful data from any D4 and D5 soft starter, including starter model, status, and details of the last three trip events. View the data on-site and diagnose issues in the field, or share it with your local support team for further assistance - all at the push of a button.

Digistart D4 & D5

Features and options

Feature Sets	D4	D5
Motion Control		
Motor Sets	1	2
Constant current and current ramp start	•	•
Adaptive control starting/stopping	•	•
Kickstart		•
Coast to stop and TVR stop	•	•
DC Brake		•
Soft Brake		•
Jog (forward and reverse)		•
Inside delta (6 wire) control		•
Soft trip	•	•
Pump Clean		•
Reversing contactor control		•
Motor Protection		
Motor thermistor	•	•
Current imbalance	•	•
Under/Overcurrent	•	•
Under/Overvoltage		•
Under/Overpower (dry pump protection)		•
Phase sequence (forward/reverse/any)	•	•
Phase loss	•	•
Power loss	•	•
Stats per hour limiting	•	•
Restart delay (pump back spin delay)	•	•

Feature Sets	D4	D5
Integration and Management		
Multi-language graphical display	•	•
Configurable display screen	•	•
I/O and network expansion options	•	•
USB port and data logging	•	•
Analog output	•	•
Emergency run	•	•
Voltage measurement		•
SCR fail PowerThrough operation		•
Daily on/off scheduling		•
Run timer mode (on/off cycle timer)		•
Run simulation	•	•
Communications Options		
Modbus RTU	•	•
Profibus	•	•
DeviceNet	•	•
Modbus TCP	•	•
Profinet	•	•
Ethernet/IP	•	•
SMART CARD OPTIONS		
Pumping Smart Card	•	•
Accessories		
Remote Keypad	•	•

XLR-8 ACCELERATION CONTROL

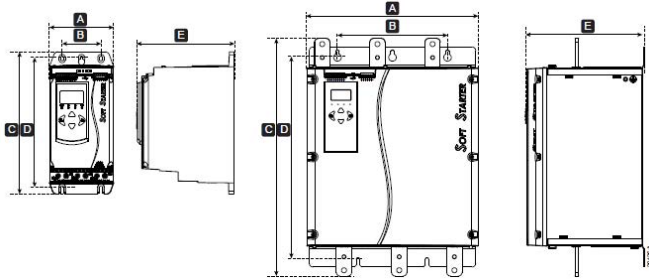
Torque or current control start modes influence acceleration but only XLR-8 puts you in direct control of ramp profiles and start times.

Select a ramp profile and time then let the D4 and D5 do the rest. XLR-8 technology auto-tunes for the connected motor and load conditions to deliver the specified performance.

Digistart D4 & D5

Specifications ($\leq 690V$)

Dimension and Weights



	Width mm (inch)		Height mm (inch)		Depth mm (inch)	Weight kg (lb)
	A	B	C	D	E	
Dx-0024B-Vx-Cx						4.8 (10.7)
Dx-0042B-Vx-Cx						
Dx-0052B-Vx-Cx						4.9 (10.9)
Dx-0064B-Vx-Cx	152 (6.0)	92 (3.6)	336 (13.2)	307 (12.1)	231 (9.1)	
Dx-0069B-Vx-Cx						
Dx-0105B-Vx-Cx						5.5 (12.1)
Dx-0115B-Vx-Cx						
Dx-0135B-Vx-Cx						
Dx-0184B-Vx-Cx						
Dx-0200B-Vx-Cx			495 (19.5)			12.7 (28.0)
Dx-0229B-Vx-Cx						
Dx-0250B-Vx-Cx						
Dx-0352B-Vx-Cx	216 (8.5)	180 (7.1)		450 (17.7)	243 (9.6)	15.5 (34.2)
Dx-0397B-Vx-Cx						
Dx-0410B-Vx-Cx			523 (20.6)			
Dx-0550B-Vx-Cx						19.0 (41.9)
Dx-0580B-Vx-Cx						
D5-0835B-Vx-Cx						51 (112.4)
D5-0940B-Vx-Cx						
D5-1070B-Vx-Cx						62(136.7)
D5-1230B-Vx-Cx						63(138.9)
D5-1250B-Vx-Cx	446 (17.6)	287 (11.3)	618 (24.3)	540 (21.3)	310 (12.2)	65(143.3)
D5-0735C-Vx-Cx						47 (103.6)
D5-0830C-Vx-Cx						58(127.9)
D5-1025C-Vx-Cx						59(130.1)
D5-1170C-Vx-Cx						61(134.5)
D5-1220C-Vx-Cx						

Current Ratings

	AC53B 3.0 - 10:350 40°C < 1000M	AC53B 3.5 - 15:345 40°C < 1000M	AC53B 4.0 - 10:350 40°C < 1000M	AC53B 4.0 - 20:340 40°C < 1000M
Dx-0024B-Vx-Cx	24	20	19	16
Dx-0042B-Vx-Cx	42	34	34	27
Dx-0052B-Vx-Cx	52	42	39	35

	AC53B 3.0 - 10:350 40°C < 1000M	AC53B 3.5 - 15:345 40°C < 1000M	AC53B 4.0 - 10:350 40°C < 1000M	AC53B 4.0 - 20:340 40°C < 1000M
Dx-0064B-Vx-Cx	64	63	60	51
Dx-0069B-Vx-Cx	69	69	69	62
Dx-0105B-Vx-Cx	105	86	84	69
Dx-0115B-Vx-Cx	115	108	105	86
Dx-0135B-Vx-Cx	135	129	126	103
Dx-0184B-Vx-Cx	184	144	139	116
Dx-0200B-Vx-Cx	200	171	165	138
Dx-0229B-Vx-Cx	229	194	187	157
Dx-0250B-Vx-Cx	250	244	230	200
Dx-0352B-Vx-Cx	352	287	277	234
Dx-0397B-Vx-Cx	397	323	311	263
Dx-0410B-Vx-Cx	410	410	410	380
Dx-0550B-Vx-Cx	550	527	506	427
Dx-0580B-Vx-Cx	580	579	555	470

	AC53B 3.0 - 10:350 40°C < 1000M	AC53B 3.5 - 15:345 40°C < 1000M	AC53B 4.0 - 10:350 40°C < 1000M	AC53B 4.0 - 20:340 40°C < 1000M
D5-0835B-Vx-Cx	835	654	631	535
D5-0940B-Vx-Cx	940	736	708	603
D5-1070B-Vx-Cx	1070	950	905	785
D5-1230B-Vx-Cx	1230	1154	1090	959
D5-1250B-Vx-Cx	1250	1250	1250	1156

	AC53B 3.0 - 10:50-6 40°C < 1000M	AC53B 3.5 - 15:50-6 40°C < 1000M	AC53B 4.0 - 10:50-6 40°C < 1000M	AC53B 4.0 - 20:50-6 40°C < 1000M
D5-0735C-Vx-Cx	735	590	572	492
D5-0830C-Vx-Cx	830	667	645	557
D5-1025C-Vx-Cx	1025	839	805	710
D5-1170C-Vx-Cx	1170	979	934	838
D5-1220C-Vx-Cx	1220	1134	1109	964

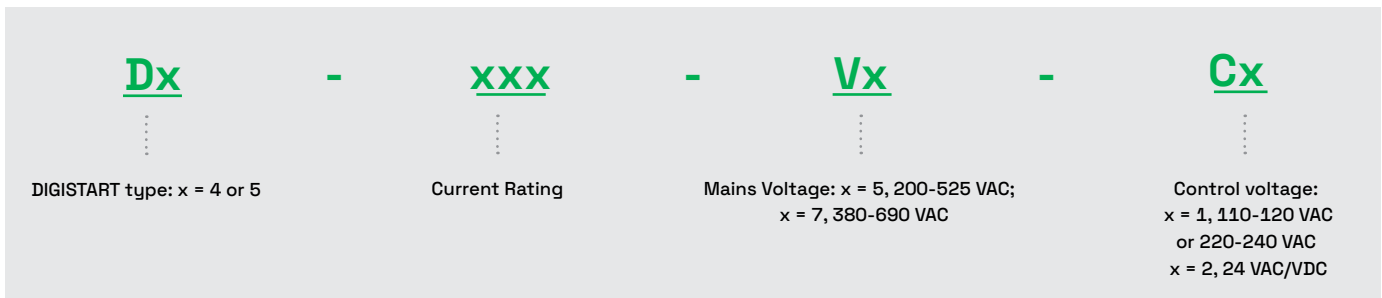
DIGISTART D5

Specifications ($\leq 1200V$)

	Width mm (inch)		Height mm (inch)		Depth mm (inch)	Weight kg (lb)
	A	B	C	D		
D5-0202E-V12-Cx						62 (136.7)
D5-0287E-V12-Cx						
D5-0387E-V12-Cx	447 (17.6)	187 (7.4)	662 (26.1)	585 (23.0)	306 (12.1)	
D5-0564E-V12-Cx						63.5 (12.1)
D5-0629E-V12-Cx						

	AC53B 3.0 - 10:50-6 40°C < 1000M	AC53B 3.5 - 15:50-6 40°C < 1000M	AC53B 4.0 - 10:50-6 40°C < 1000M	AC53B 4.0 - 20:50-6 40°C < 1000M
D5-0202E-V12-Cx	202	165	152	140
D5-0287E-V12-Cx	287	233	215	197
D5-0387E-V12-Cx	387	315	290	267
D5-0564E-V12-Cx	564	444	423	366
D5-0629E-V12-Cx	629	503	478	414

Model Guide



Other solutions

Nidec Drives offers a complete range of soft starters. Whether you need a simple product for starting only, or a comprehensive motor control panel you can trust Nidec Drives to offer a product to match.

	Soft Start	Motor Protection	Advanced Interface	Internal Bypass	Current Range	Voltage Range
D1	•			•	≤ 200 A	≤ 575 VAC
D2	•	•		•	≤ 200 A	≤ 575 VAC
D3	•	•	•	•	≤ 1600 A	≤ 690 VAC
D4	•	•	•	•	≤ 580 A	≤ 690 VAC
D5	•	•	•	•	≤ 1250 A ≤ 630 A	≤ 690 VAC ≤ 1200 VAC
D1000	•	•	•	Option	≤ 540 A	≤ 11 K VAC
D2000	•	•	•	Option	≤ 1700 A*	≤ 13.8 K VAC**

*Up to 10 kA available on request.

**Up to 15KV available on request

AC53b Utilisation Code

The AC53b utilisation code defines the current rating and standard operating conditions for a bypassed soft starter (internally bypassed, or installed with an external bypass contactor).

The softstarter's current rating determines the maximum motor size it can be used with. The soft starter's rating depends on the number of starts per hour, the length and current level of the start, and the amount of time the soft starter will be off (not passing current) between starts.

The soft starter's current rating is only valid when used within the conditions specified in the utilisation code. The soft starter may have a higher or lower current rating in different operating conditions.

Figure 2-2 AC53b utilisation code



Start current rating: The full load current rating of the soft starter given the parameters detailed in the remaining sections of the utilisation code.

Start current: The maximum available start current.

Start time: The maximum allowable start time.

Off time: The minimum allowable time between the end of one start and the beginning of the next start.



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