

• Designation

DIGISTART type
Supply voltage : x=4, 200-440 VAC ; x=6, 380-690* VAC
Rated current (A)
Version : B, with by-pass ; N, without by-pass
* In IT regime network, from 600 to 690 V, it is necessary to protect the controller against transient overvoltages

• Environment

Protection: D3-1x-0023 / 0105
D3-1x-0145 / 1600 IP 20
IP 00
Operating temperature: -10 to +60°C (derating above 40°C)
Storage temperature: -25 to +60°C
Operating altitude: 0-1000 m (derating above 1000 m)
Relative humidity: 5 to 95 %
Degree of pollution (IEC 60 664-1): 3
Vibration (D3-1x-0023 / 0220): IEC 60068-2-6

• General informations

Frequency: 45 to 66 Hz
Power supply separate from the control electronics: 110 to 210 VAC or 220 to 440 VAC
5 remote control inputs:
- Run: NO
- Stop: NF
- Others: NO or NF
4 relay outputs: 250 VAC resistive, 10 A
Analogue output: 0-20 mA or 4-20 mA
24 Vdc output: 200 mA
7 additional inputs/outputs with add-on module

• IEC 60947-4-2 standard coding

255A : AC-53a 3-10 : 50-6
Rated current (A)
Starting current/full-load current ratio
Starting time (s)
On-load operating factor (%)
Number of starts per hour

145A : AC-53b 3.0-10 : 590
Rated current (A)
Starting current/full-load current ratio
Starting time (s)
Interval between 2 starts (s)

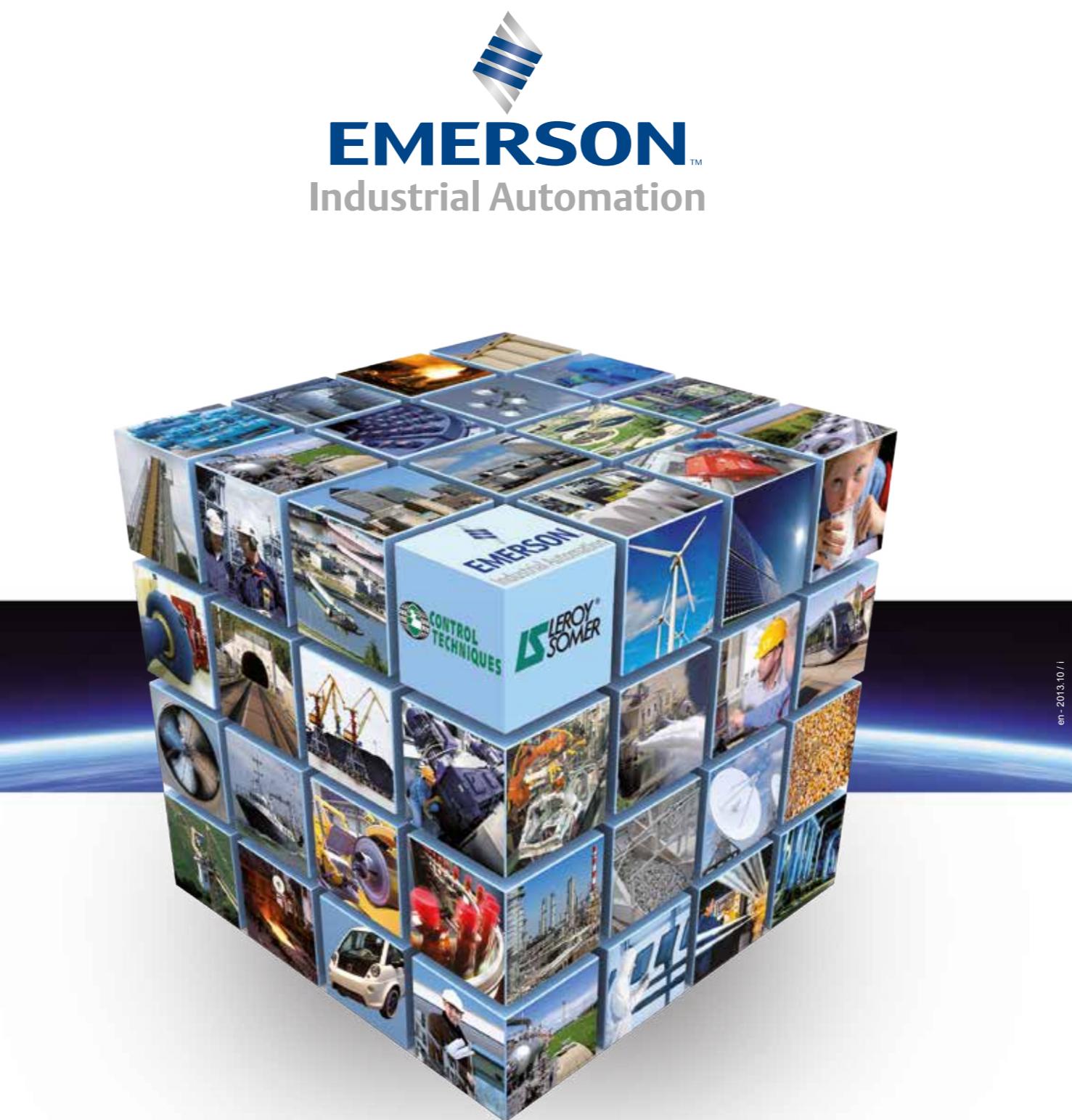
Type Dimensions (mm) Weight (kg)
W **maxH** **D**

D3-1x-0023 / 0043 / 0053B	156.4	294.6	196.2	3.2
D3-1x-0076B	226.7			3.5
D3-1x-0097 / 0105B				4.8
D3-1x-0145 / 0170 / 0200 / 0220B	282	438	254	16
D3-1x-0255B	424	440	303	26
D3-1x-0350 / 0425B				30.2
D3-1x-0255N	394	460	284	25
D3-1x-0500 / 0700B				49.5
D3-1x-0820 / 0920 / 1000B	433	640	300	60
D3-1x-0360 / 0430N				50.5
D3-1x-0650 / 0790 / 0930N	430	898	302	53.5
D3-16-1200 / 1410 / 1600N	574	1011.5	364	140

• Examples of DIGISTART/4-p motor combinations

Motor		DIGISTART*	
Power	Current	B (with by-pass)	N (without by-pass)
kW	A	AC53b 3.0-10:350	-
7,5 - 11	15,2 - 21	D3-1x-0023	-
15	28,8	D3-1x-0043	-
18,5 - 22	35,2 - 41,7	D3-1x-0043	-
		AC53b 3.0-10:590	AC53a 3-10:50-6
30 - 37	56,3 - 68,7	D3-1x-0076	-
45	83	D3-1x-0097	-
55	101	D3-1x-0105	-
75	137	D3-1x-0145	-
90	164	D3-1x-0170	-
110	203	D3-1x-0220	-
132	249	D3-1x-0255	D3-1x-0255
160	299	D3-1x-0350	D3-1x-0360
200	377	D3-1x-0425	D3-1x-0430
250	428	D3-1x-0500	D3-1x-0430
315	603	D3-1x-0700	D3-1x-0650
355	653	D3-1x-0700	D3-1x-0790
400	698	D3-1x-0820	D3-1x-0790
450	767	D3-1x-0820	D3-1x-0790
500	864	D3-1x-0920	D3-1x-0930
550	940	D3-1x-1000	D3-16-1200
600 - 650	1037 - 1120	-	D3-16-1200
700	1210	-	D3-16-1410
800	1380	-	D3-16-1410

*: Selection for operation in by-pass mode, ambient temperature of 40°C, altitude < 1000 m.
For other operating conditions: see installation manual or consult Emerson Industrial Automation.

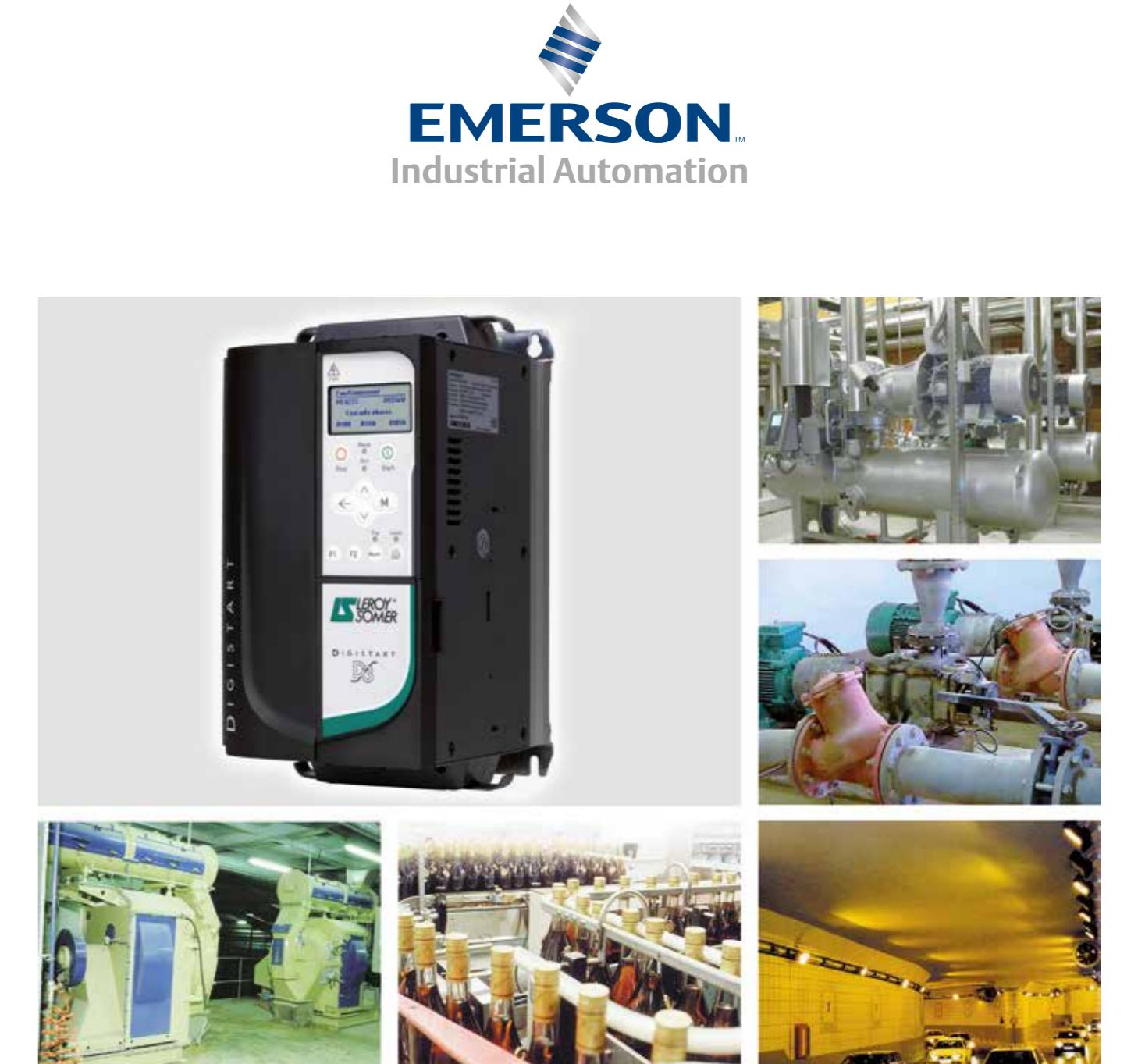

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Electronic starters

DIGISTART 

23 to 1600 A

4300 en-2013.08 / e

DIGISTART D3

Simple, economical and high-performance!

EMERSON Industrial Automation offers the latest electronic control technologies for managing transient phases in pumps, compressors, fans, conveyors, mixers, grinders, etc. The DIGISTART D3 range, for induction motors up to 1600 kW, combines simplicity and user-friendliness while offering the user a high-performance, communicating electronic starter, and can achieve substantial energy savings.

 Range: 23 - 1600 A/400 V or 690 V



Immediate access to information

- Settings, values & units
- Operating data
- Trips and diagnostics
- Multilingual (English, French, German, Italian, Spanish)

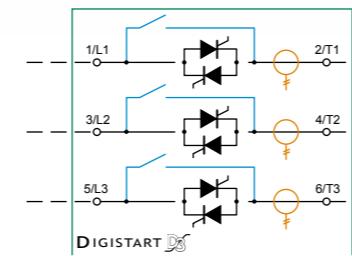
Quick and easy to use

- Keys for intuitive browsing
- Local controls
- Customisable function keys

Integrated by-pass*

Up to 60% space saving:

- Elimination of external power components
- Simplified remote control wiring
- Energy saving



*: Available up to 1000 A.
Higher ratings: a connection is provided for an external contactor (not supplied).

Maximum service!

Advanced control

- Starting and stopping adapt to the load automatically
- Automatic parameter optimisation by gradually learning the types of start

High flexibility

- Able to operate with only two power components operational
- Protection devices can be disabled to implement emergency run mode (smoke extraction, fire pump, etc.). Function validated by an European body

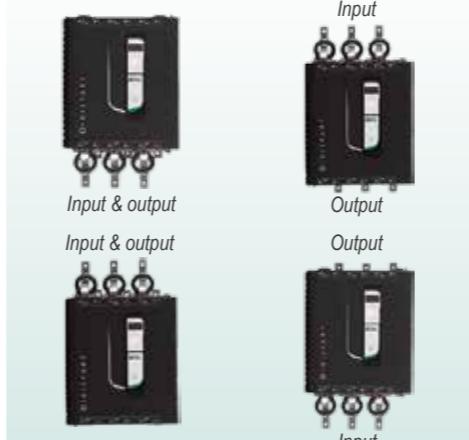
Total protection

- Continuous thermal modelling for maximum motor protection (even in the event of a power cut)
- Trips on configurable power thresholds
- Control of phase current imbalance
- Monitoring of motor temperatures and the environment with PTC or PT 100
- Optional**
- Installation trips in the event of an earth fault
- Power connection protection kit for 145 to 1000 A models with integrated bypass

Flexible, ergonomic wiring

Power

Examples of configurations
360 A to 1600 A

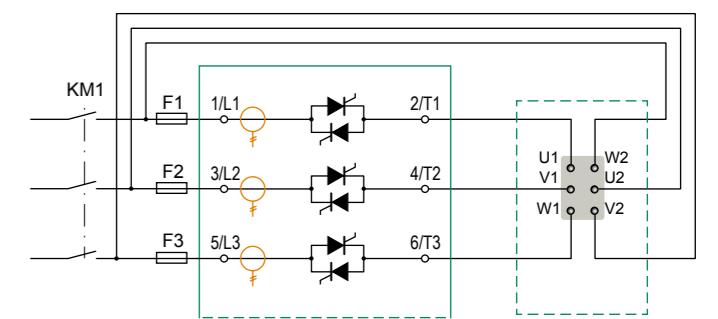


Control

Removable terminal blocks

Connection to "Δ" motor (6-wire)

- Starter size at least one rating lower
- Automatic detection of motor connection
- Ideal for replacing Y / Δ starters



User-friendly

Communication

- Modbus RTU, DeviceNet, Profibus, USB
- EtherNet/IP, Modbus TCP, Profinet

Simplicity of setup

- 3 parameter-setting levels
 - Preset configurations for pumps, fans, compressors, etc.
 - Standard: access to the main parameters
 - Advanced menu: access to all data
- Storage
 - Time-stamped log of trips
 - Energy consumption and operating conditions
 - Latest modifications
- Simulate operation by forcing control
- Display the state of the inputs/outputs
- Counters: running time, number of starts, etc.

