

# SD700

Series

VARIABLE SPEED DRIVE

Easy to drive





We had always dreamt about an integral service that included, commissioning support, 24 hour technical assistance, rapid workshop response with less than 1 day repair or replacement commitment. Three year warranty, immediate delivery, customized training and professional application engineering.

A dream  
a promise,  
the commitment.



Further information at  
[www.power-electronics.com](http://www.power-electronics.com)

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# OI SD700

## > easy to drive

Some times it is difficult to do things simply.  
With the SD700 we have focused all our  
technological research into making life easy  
for the user.

- 12, 18, 24 pulses operation
- Ultra-fast input fuses (Frames 5 to 11)
- Isolated control inputs and outputs
- Dynamic Braking chopper up to 22kW
- AC line voltage 230V to 690V
- High starting torque 200%
- Application specific macro's  
(pumping, crusher, etc... programmable)
- Communication interface Modbus as a standard  
(options as Profibus, DeviceNet, TCP/IP, etc...)
- Electronic PCB unification
- FPA\* (Fault Preventing Algorithms) to detect and to correct  
critical situations
- Torque time response less than 15msec
- Electrical safety standard (IEC 22G/109/NP de IEC 61800-5)

*A drive manufactured with respect for the environment  
that complies with the RoHS Directive 2002/95/EC  
(Restriction of Hazardous Substances Directive).*

*Conformal coating for the whole range.  
Standard IEC 61086-1:2004, IEC 61086-3-1:2004.*

**Output dV/dt filters (300m...) and RFI built-in filters  
Harmonic filters, Choke coils 3% impedance**

The definitive

Compliance with Standard  
**IEC 61800-3:2004**  
with cable motor distance up to  
300m<sup>(1)</sup> unscreened. Compliance for  
radiated and conducted emissions.

**Power Range**  
from 2,2kW to 1,8MW

**Operation temperature**  
from -30 °C to +50 °C

**Protection degree**  
IP00<sup>(2)</sup>, IP20 and IP54



**Easy maintenance**  
FFA<sup>(3)</sup> (Full Frontal Access)

**24 hours technical service**  
365 days a year

**Graphic Display with touch screen**  
GSM and GPRS  
Direct communication with the Drive



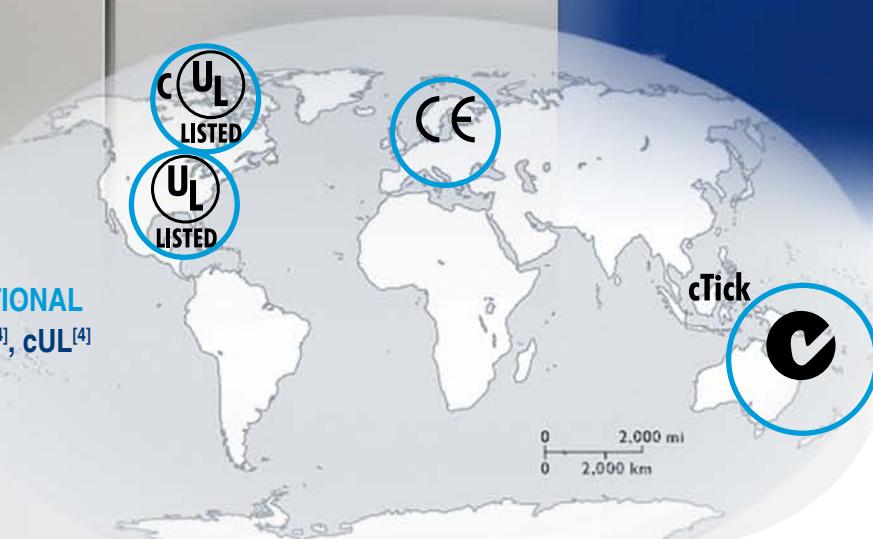
**COMPLIES WITH INTERNATIONAL  
STANDARDS CE, cTick, UL<sup>(4)</sup>, cUL<sup>(4)</sup>**

(1) For 400VAC, whenever the cable installation is done in accordance with the recommendations given in the SD700 manual.

(2) SD700 KOMPAKT Series

(3) Patent pending

(4) On process



# O2 SD700

## >the definitive solution

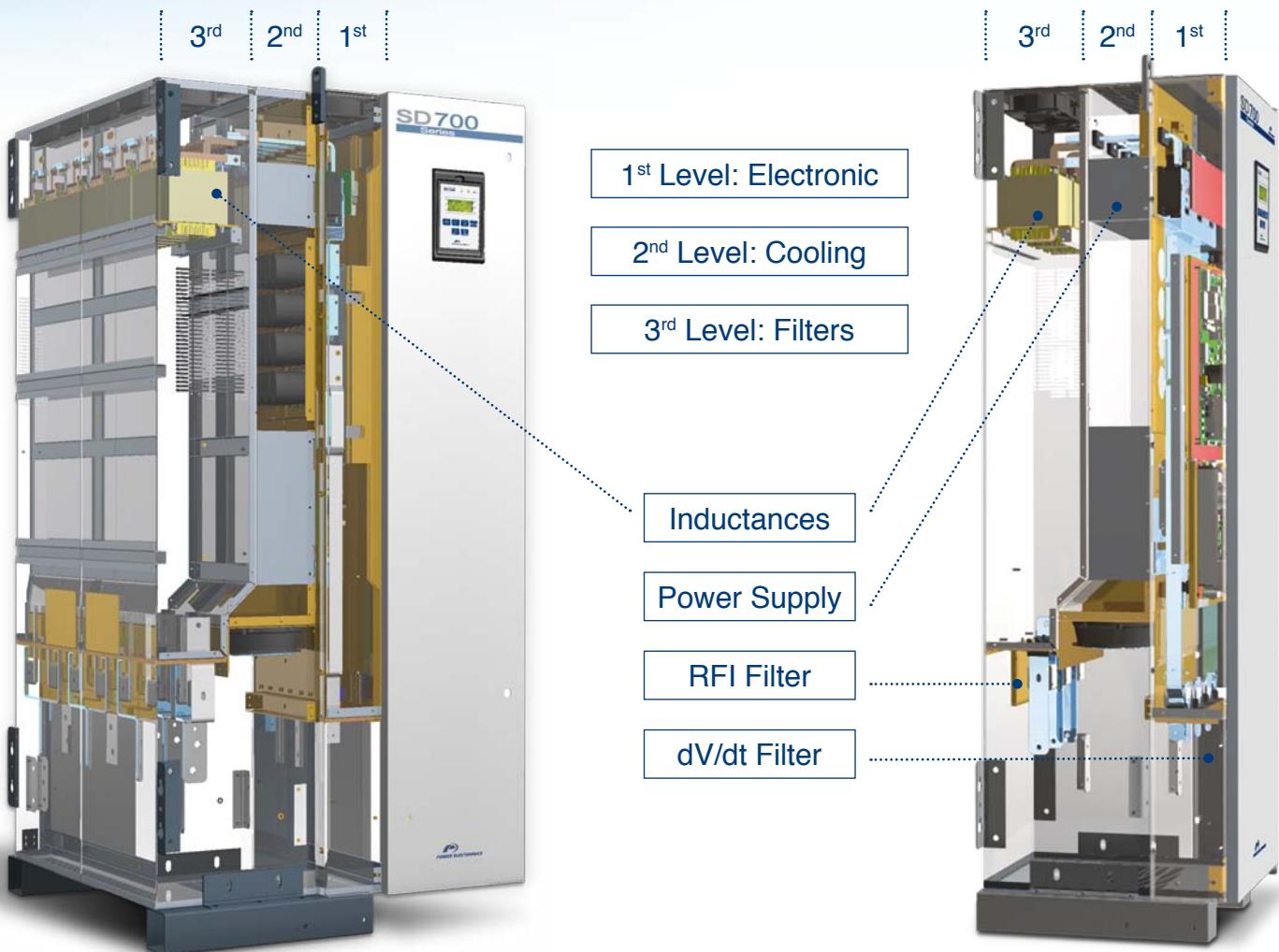
*Easy to drive*

### Advanced mechanical design

From this point of view, the SD700 has been designed and built with a clear objective: TO MAKE EASY, in a significant way, its installation and maintenance.

Its three main modules: the rectifier, the power capacitors and the inverter, are mechanically separate, allowing frontal access to all drive parts immediately.

This **FFA\*** (Full Frontal Access) approach was always in our designers minds with the aim of achieving modular independence.



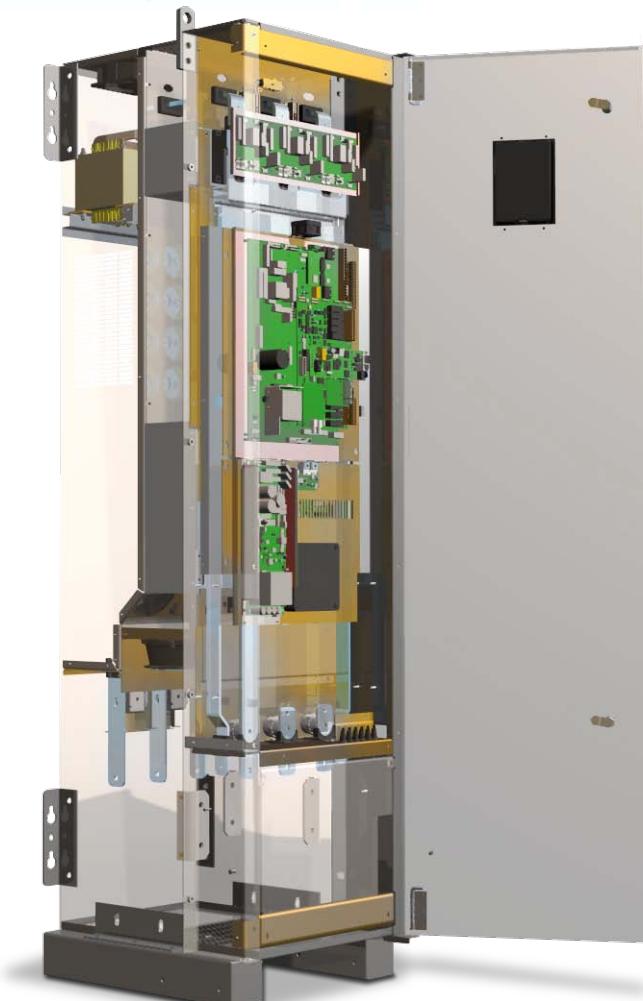
SUCH AN EFFICIENT INTERNAL DISTRIBUTION HAS ALLOWED US  
TO OPTIMIZE THE MECHANICAL STRUCTURE TO THE MAXIMUM AS  
WELL AS ENSURING INHERENT RELIABILITY OF THE SD700.

# FPA

# MCA

# FEA

Another concept reinforced the internal location of modules for the SD700: **Temperature Sensitivity**. Based on this concept we determined the proximity of the cooling fan for all the elements susceptible to this aspect. This new objective was achieved with no sacrifice to module interconnection. The modules layout is simple and logical, allowing the most efficient use of the available space in the drive.



## Innovative features

As a complement to such an advanced mechanical design, Power Electronics has chosen a new control strategy: **MCA** (Motion Combined Algorithms), combining all the advantages of different traditional motor control.

With this concept we have obtained the strength and the stability of V/Hz control plus the dynamic response of vector control under transient conditions, minimising the dependence between the motor characteristics and drive stability.

The SD700 incorporates an intelligent operational control, but beyond this, we have implemented a group of innovative algorithms: **FPA\*** (Fault Preventing Algorithms). This system allows the SD700 to overcome extreme conditions without activating its own protections. These powerful monitoring algorithms can prevent some situations where the drive would activate its internal protections.

A PRE-EMPTIVE DETECTION ALSO ALLOWS PRE-EMPTIVE CORRECTIVE ACTIONS PREVENTING NON DESIRABLE STOPPING OF PRODUCTION LINES.

The combination of all these concepts has developed the SD700 into a **ROBUST** drive **UNIQUE** in features, making it possible to realize “in situ” all maintenance and commissioning operations, no matter how complex they are.

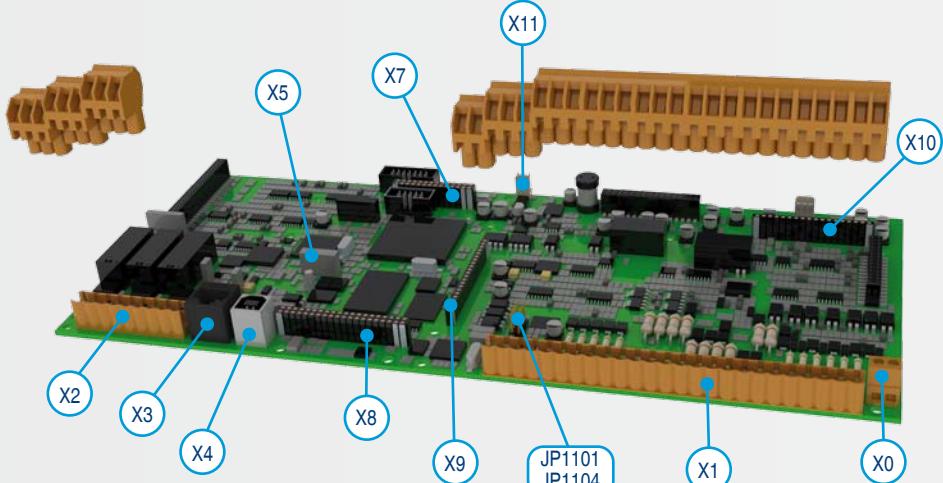
# O3 SD700

## > standard features

This equipment provides the required features to cover a vast range of most demanding market applications.

### > Unplug terminals for user

- X0 Safety Stop connection
- X1 Digital inputs, PTC connection, analogue programmable inputs and outputs and serial communication. Plug and unplug terminals.
- X2 Programmable digital outputs. Plug and unplug terminals.
- X3 Display connection. RJ45 connector.
- X4 USB port.
- X5 Fibre Optic, drives communication.
- X7 - X8 Serial Bus options connection.
- X9 Connection for optional inputs and outputs board.
- X10 Connection for optional encoders board.
- X11 Connector for Brake in Slave Mode
- JP1101 To select communication port between RS232/RS485 or USB.
- JP1104



SD70ITC0002JE

#### ■ ENCLOSURE

Manufactured in metal cabinet to improve RFI immunity. Depending on the environmental conditions of each installation, it is possible to use one of the three configurations: IP00 (SD700 Kompakt), IP20 and IP54.

#### ■ WIRING

Large space for power cables connection. Availability of "Conduit box" for frames 1 and 2. Simply unplug the terminal blocks to disconnect control signal wires.

#### ■ POWER SUPPLY

User power supply +24Vdc, 100mA. 10Vdc Potentiometer power supply. Both are regulated and short-circuit protected. External 24Vdc power supply board, to keep the drive logically alive in situations when the AC power supply has been removed.

#### ■ FILTERS

Standard built-in RFI filters. Standard built-in filters for harmonics reduction (DC Chokes for frames 1 and 2, AC Chokes for the rest). Standard built-in dv/dt filters to minimise overvoltage in cables and motor terminals.

#### ■ INPUT SECTION

Semi-conductor input fuses built-in for 210 – 2200A models. Built-in braking unit for frames 1 and 2 of SD700.

#### ■ OPTIMIZING AND EFFICIENCY

The design and construction of the SD700 ensures optimal operation in aggressive atmospheres, giving you guaranteed performance at 50°C.

The use of advanced-high efficiency heat-sink, high quality components and the upgraded structure allow us to get more than 97% efficiency at full load.

#### ■ SAFETY

All SD700 drives provide the safety stop function suitable for category 3 installations according to EN 954-1. In this way, this feature prevents the drive from starting unintentionally.

#### ■ ELECTRONIC

Same control board and same power board for the whole range. Just 2 IGBT models for the whole series. Same fan power supply board for all SD700, with modular connection for higher inverters capacity.

Availability of USB port for communication and software upload. Fibre Optic ports to synchronize several drives.

#### ■ USER INTERFACE

Provided with several control modes, it is possible to control the drive from the keypad (Local Mode), Remote Mode (through inputs / outputs terminals) and via buses and communication networks.

Real-time clock and perpetual calendar.

First drive offering optionally a graphic display with touch screen for graphic data presentation and communication via GSM and GPRS.

# Factory Settings

Through the control terminals, the user can access:

## DIGITAL INPUTS

There are 6 multifunction digital inputs and 1 motor PTC input. The digital inputs can be programmed all together according to pre-fixed configurations or they can be programmed individually. They are optically isolated.

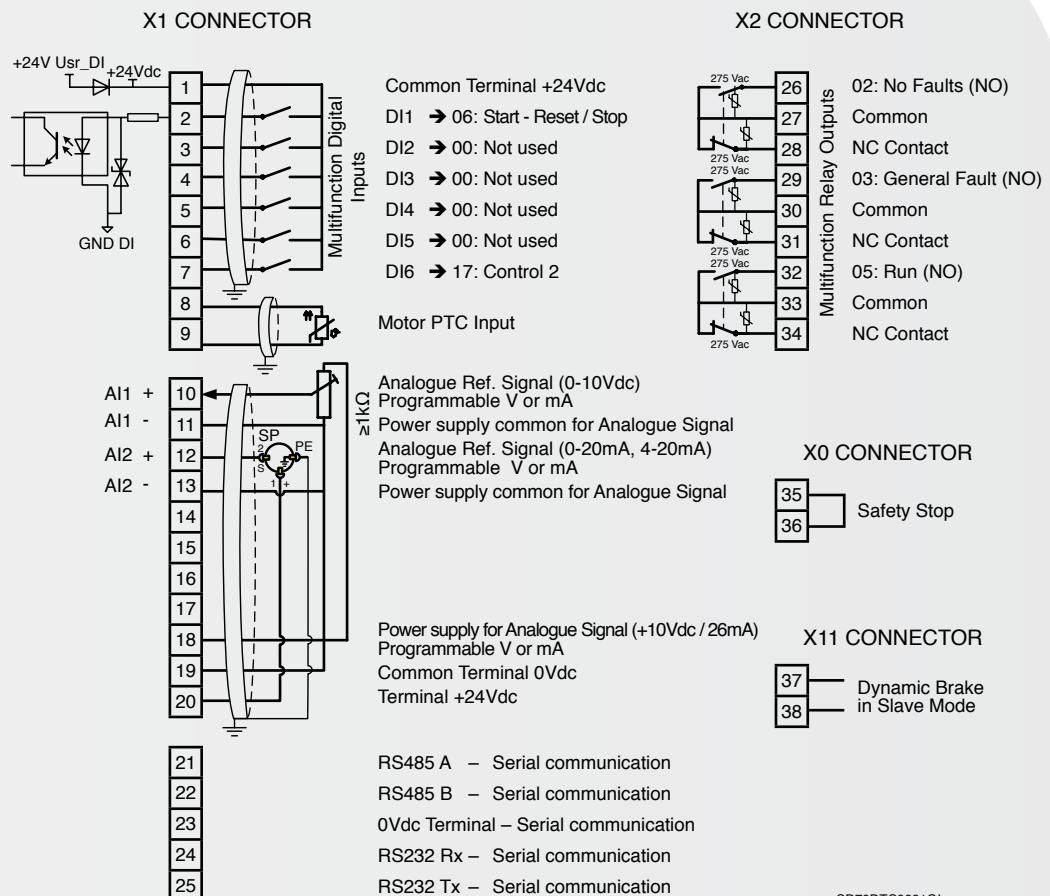
## ANALOGUE INPUTS

They are optically and galvanically isolated. They can be programmed for different uses.

## COMPARATORS

It is provided with timer comparators which allow the comparison of a number of internal and external variables.

The result of this action can be the activation of digital outputs or allows direct control of the drive without using the inputs or the outputs and without additional external wiring.



SD70DTC0001GI

## Auxiliary tools:

Monitoring tool **PowerCOMS** offers maximum flexibility for parameter monitoring and parameter saving. With this tool we can configure the drive in remote mode in the very most comfortable way.

Programming tool **PowerPLC**, executed from a PC, allows configuration of the drive as a PLC. In this way it is possible to control auxiliary programmes that will be downloaded to the microcontroller.



## Application macros

- Multiple pump control (extensive control and functionality).
- Position control.
- Crane control.
- For others applications contact Power Electronics.
- Compressors.



## 04 SD700

### > alphanumeric display

✓ Touch

✓ Customized Visualization

✓ GSM and GPRS communication

✓ Built-in Help System

✓ Fault History (Logs)

✓ Language Selection



#### Fault status Register

It is possible to access to the visualization parameter groups SV.1 and SV.2 (motor speed, motor frequency, average input voltage, DC Bus Voltage, ...) at fault instant. For additional details, consult the SD700 manual.



# 05 SD700

>touch Screen display

Screen

- ✓ 3,5 inches size
- ✓ 240x320 pixels



The graphic display provides a much more intuitive data presentation, offers an easy navigation through the control parameters and allows saving thousands of customized configurations defined by the user.



Direct communication with your Drive

**SMS Service**  
(Query, Notification and Special messages)

# 06 SD700

## one drive for all applications

The SD700 offers an easy solution for each installation at 230Vac, 380-500Vac, 525Vac and 690Vac, with a spectacular adaptation to a vast range of industries.

10



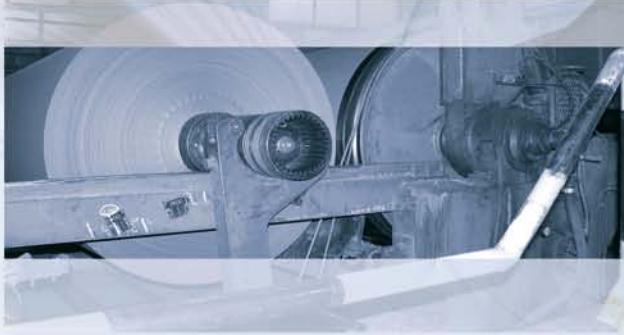
### Elevation systems

Cranes and elevators require the drive to give maximum torque at zero speed. The SD700 offers the possibility of specific software designed for controlling cranes in both transverse and elevation movements. The control of the final lifting implement of the crane is built-into the software whether the tool is a hook, a grapple or a scoop.

### Tooling machine

Our product is very useful in millers, mixers, packing machines... wherever you need a highly dynamic response and high torque. The SD700 shows its diverse functionality in applications where the quality of the final product is the key.





## Paper machines and lamination machines

In this kind of machine the SD700 shows its high performance, offering functions such as:

- Master-Slave operation mode.
- Communication between slaves through fibre optics for increased response time and accuracy.
- Lineal speed (m/min) setting.
- Tension setting.
- Operation in torque mode or 'Helper' mode.
- Possibility of distributing the load at presses...

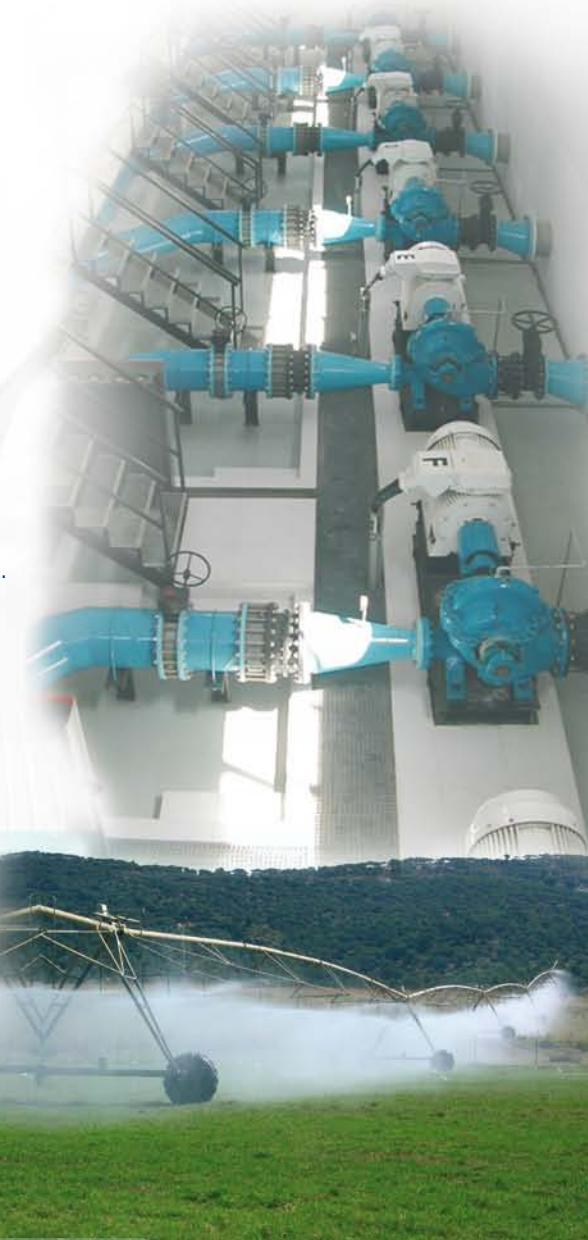
## Pumping systems

The SD700 Series permits the change of the rotational speed of the pump impeller, modifying the characteristics of the pump curve, and as result adapting the pump flow to suit requirements at any moment.

The comprehensive Pumping Control Program allows exceptional control of the pumping system.

Some of the main features are:

- Regulation of pressure, flow, temperature..., thanks to PID control.
- Sleep and Wake functionality.
- Direct programming in engineering units (l/s, m<sup>3</sup>/s, %, °C, ...).
- Operation in manual or automatic mode.
- Several Pump alternation modes (No Alternation, Sequential Alternation and Alternation by working time).
- Visualization of working time per pump and start number.
- Under-pressure and Over-pressure compensation.
- Pipe fill function.
- Monitoring of motor operational status, detecting those out of service.
- Flow measurement by pulses.
- Protections:
  - Cavitation, with reset activation time.
  - Minimum pressure detection.
  - Over-pressure control.
  - Zero-flow detection...



# O7 SD700

## > power electronics

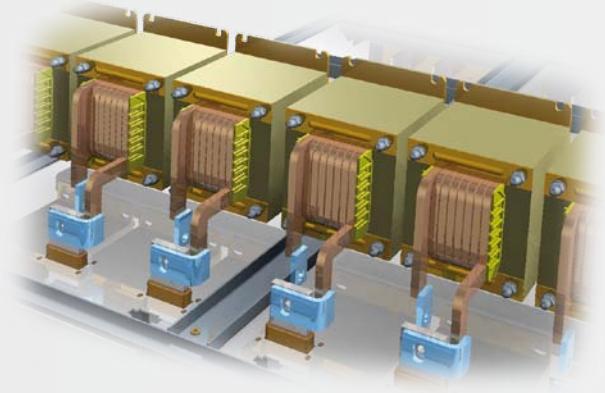
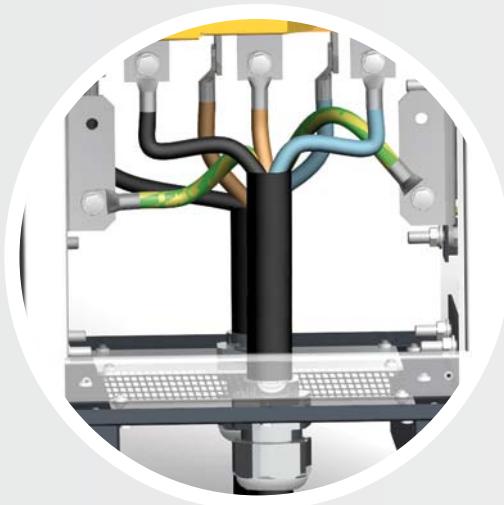
The SD700 series stands out due to its innovative features such as the exclusive mechanical design of its power stage, latest generation IGBTs, inductors for harmonic reduction, input and output filters, and of course, our special mechanical design FFA\* (Full Frontal Access).

All the above mentioned ensures a continuous operation at 50°C under full load conditions.

(\* ) Patent pending

### Motor connection

Output cables distances up to 300m with unscreened cables and compliance with standard IEC 61800-3:2004 for radiated and conducted emissions.

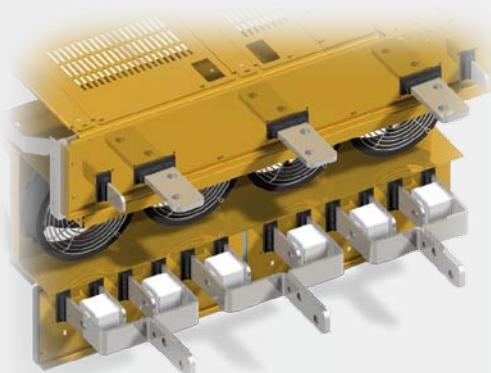


### Power input elements-rectifier

The input inductance (CHOKE) reduces the current and voltage harmonic distortion, protects the drive from mains disturbances decreasing the risk of damage due to over-voltages.

### Power terminals

The power terminals has been over-sized to allow better connection of input power supply, motor supply, dynamic braking connection and allow the use of higher cross section cables in the case of longer distances.



### Electromagnetic compatibility

The SD700 series meets EMC compliance thanks to:

- Input chokes (as standard)
- Output dV/dt filters (as standard)
- Electronic control of the dV/dt of the IGBT
- Exceptional mechanical construction
- Design of PCBs

### Temperature control

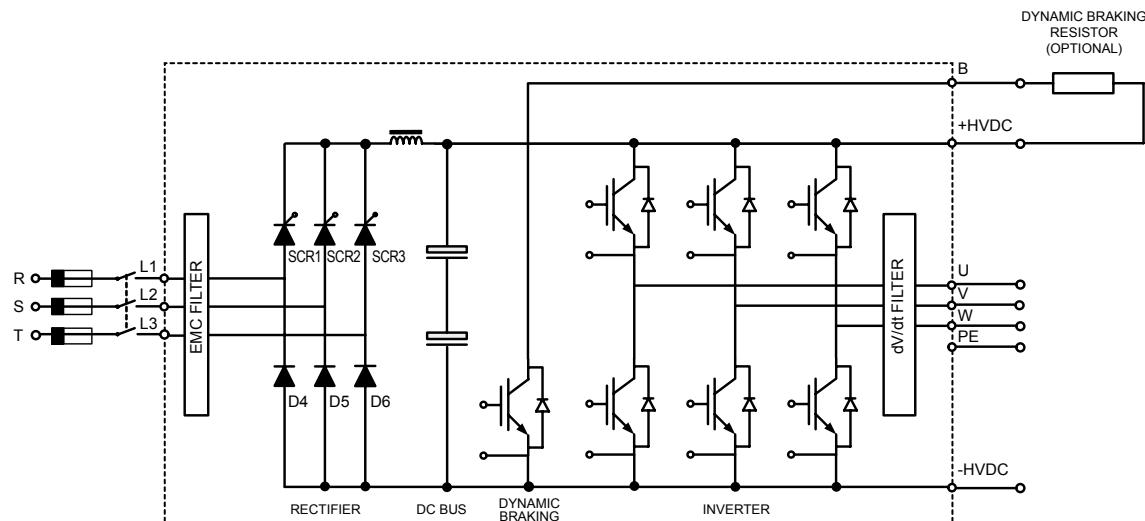
The high efficiency heatsink built-in the SD700 allows the dissipation of generated heat thanks to its cooling fins, achieving continuous operation at full load at 50°C ambient temperature. Its conformal coating and perfect isolation means IP54 degree protection, ideal for installing and working in industrial environments.

## Inverter bridge

We have used integral power modules incorporating new generation IGBT's.

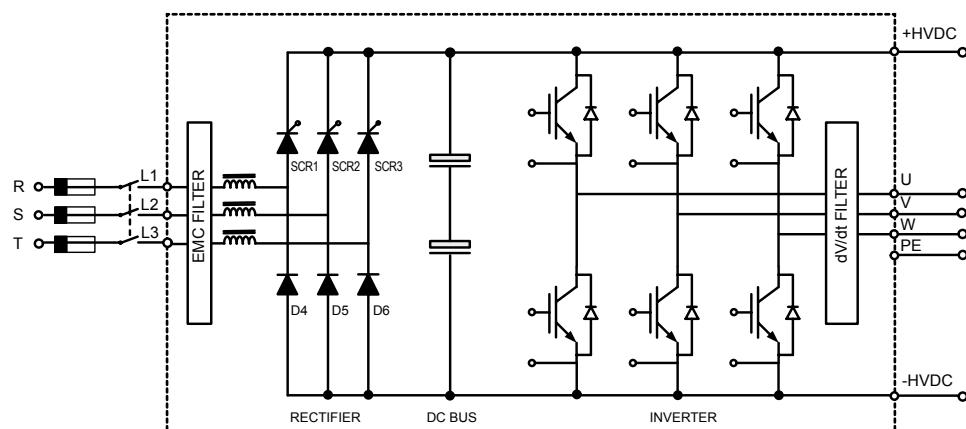
The drives are provided with a very high overload capacity and high carrier frequencies to provide silent motor operation and to achieve a low output current distortion.

Output filters reduce motor cable capacitance and decrease the dV/dt factor, allowing increased cable length between motor and drive. Stress in the output cables and motor windings are reduced. Radiated and conducted emission of Radio Frequency Interferences (RFI) is reduced.



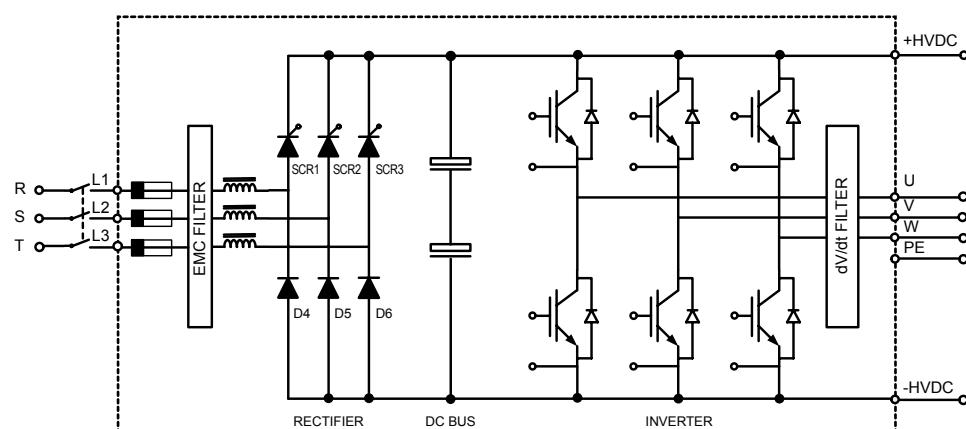
Power electronics SD700: Frame 1 and Frame 2

SD70DTP0004BI



Power electronics SD700: Frame 3 and Frame 4

SD70DTP0001AI



Power electronics SD700: from Frame 5 to Frame 11

SD70DTP0002AI

# O8 SD700

## >technical specifications

<b>INPUT</b>	Power supply	230Vac, 380-500Vac, 525Vac, 690Vac. For different voltages consult to Power Electronics.
	Input frequency	48 - 62Hz
	Input Current	$\leq$ Output current
	Fundamental power factor ( $\cos\phi$ )	$\geq$ 0,98
	Power factor	$\leq$ 0,91
	Momentary power loss	> 2s (depending on the load)
	EMC input filter	Second environment, limits 3 and 4 First environment, limits 1 and 2 optional built-in.
	Harmonics filter	Choke coils 3% impedance
<b>OUTPUT</b>	Motor output voltage	0V to Vinput - 0.75% @100% load (Frames 1 and 2) 0V to Vinput - 3% @100% load (Frames 3 to 11)
	Frequency ratings	0 to $\pm$ 250%
	Overload capacity	150% for 60 sec at 50°C
	Efficiency (at full load)	> 97%
	Motor power (kW)	50 to 150% of SD700
	Motor voltage	5 to 500Vac
	Control method	V/Hz control, Vector control (Sensorless) Space vector technology
	Carrier Frequency	4 to 8kHz - PEWave
	Output dV/dt filter	500 to 800V/ $\mu$ s
	Output cable length	Up to 300m*
	Dynamic braking unit	Built-in for frames 1 and 2
<b>ENVIRONMENTAL CONDITIONS</b>	Ambient temperature	-30°C to +50°C
	Altitude	1000m
	Altitude de-rating	>1000m, -1% per 100m; maximum 3000m
	Degree Protection	IP00**, IP20 and IP54
	Ambient humidity	< 95%, non-condensing
	Display degree protection	IP54
<b>MOTOR PROTECTIONS</b>	Rotor locked	
	Motor Overload (thermal model)	
	Phase current imbalance. Phase voltage imbalance	
	Motor over-temperature (PTC, normal status 85R-2K $\Omega$ )	
	Speed limit	
	Torque limit	
<b>DRIVE PROTECTIONS</b>	Output current limit	
	Overload	
	IGBTs overload	
	Input phase loss	
	High input voltage	
	Low input voltage	
	DC Bus voltage limit	
	Low DC Bus voltage	
	High input frequency	
	Low input frequency	
	IGBT temperature	
	Heatsink over-temperature	
	Power supply fault	
	Drive thermal model	
	Software and Hardware fault	
	Ground fault	
	Analogue input signal loss	

Additional features see Technical Manual of SD700 series.

(\*) Cable length could be increased depending on cable type.

(\*\*) SD700 Kompakt Series.



<b>DIGITAL INPUTS</b>	6 programmable inputs, active high (24Vdc) 1 PTC input	
<b>ANALOGUE INPUTS</b>	2 programmable and differential inputs Operation rates:	Current signal: 0-20mA, 4-20mA. Voltage signal: 0-10Vdc, ±10Vdc, diferencial full duplex
<b>DIGITAL OUTPUTS</b>	3 programmable changeover relays: Factory setting:	250Vac, 8A; 30Vdc, 8A Relay output 1: No Faults Relay output 2: General Fault Relay output 3: Run
<b>ANALOGUE OUTPUTS</b>	2 analogue outputs programmable for voltage or current:	0-20mA, 4-20mA, 0-10Vdc and ±10Vdc
<b>COMMUNICATIONS</b>	Standard Hardware:  Optional Hardware  Standard Protocol: Optional Protocol:	USB port RS232 port RS485 port  Fibre optic Ethernet  Modbus-RTU Profibus-DP DeviceNet Ethernet (Modbus TCP/IP) Ethernet IP N2 Metasys
<b>CONTROL PANEL</b>	Type Distance Connection Alphanumeric display Visualization Leds  Keypad  Graphic display	Removable 3 meters (for higher cable lenght contact with Power Electronics) RJ45 4 lines of 16 characters each one LED1 ON, control board is energized LED2 RUN, motor receiving power supply from SD700 LED3 FAULT, flashing displays that a fault has occurred 6 keys to control and configure the drive, start/stop and reset Independent memory Graphic display optional with TFT touch screen 3.5 inches Independent memory
<b>INFORMATION DISPLAY</b>	Average current and 3-phase motor current Average voltage and 3-phase motor voltage Average voltage and 3-phases power supply voltage Speed, Torque, Power, Power factor of the motor Relay status Digital inputs / PTC status Output comparator status Analogue inputs and sensor value Analogue outputs value Motor overload and equipment status IGBT Temperature Motor output frequency Fault history	
<b>OTHERS</b>	Real time clock Perpetual calendar	
<b>CERTIFICATION</b>	CE, cTick, UL*, cUL*	

(\*) On process



# 09 SD700

## > standard ratings

CONFIGURATION TABLE Code: SD7037052121											
SD7		0370		5		2		12		1	
Series		Output Current		Input Voltage		Protection Degree		Pulses Number		Filters	
-	SD700	0370	370A	2	230V	0	IP00	-	6 Pulses	-	Second Environmental
K	SD700 Kompakt	0460	460A	5	380-500V	2	IP20	12	12 Pulses	1	First Environmental
		...	...	7	525V	5	IP54	18	18 Pulses		
		2200	2200A	6	550-690V						

### General considerations

- To select a drive with First Environment Filter, replace Y by 1.
- To indicate the Protection Degree, replace X by 0, 2 or 5 (IP00 "SD700 Kompakt Series", IP20 and IP54 respectively).

Examples:

Reference: SD718006212

SD700, 1800A, 690Vac, Protection Degree IP20, 12 pulse, Environment 2

Reference: SD7180062121

SD700, 1800A, 690Vac, Protection Degree IP20, 12 pulse, Environment 1

Reference: SD7K037052

SD700 Kompakt, 370A, 400Vac, Protection Degree IP20, 6 pulse, Environment 2

- Rated power for standard A.C. motors of 4-pole (1500rpm).
- Verify the rated current of the motor nameplate to guarantee the compatibility with the selected drive.



FOR THOSE NON-STANDARD CONFIGURATIONS CONSULT WITH POWER ELECTRONICS.

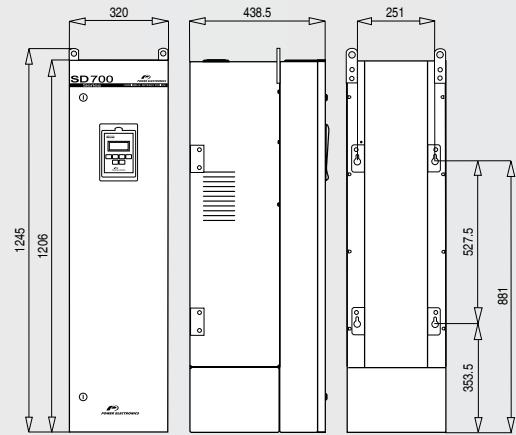
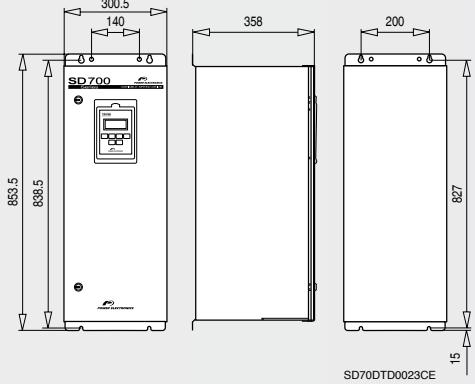
### 230Vac ( $\pm 20\%$ ) - 6 pulses

FRAME	CODE	OPERATION TEMPERATURE 50°C HEAVY DUTY			OPERATION TEMPERATURE 40°C NORMAL DUTY		
		I(A) Rated	Power Motor (kW) at 230Vac	150% Overload	I(A) Rated	Power Motor (kW) at 230Vac	120% Overload
1	SD70006 2X Y	6	1,5	9	7,5	2,2	9
	SD70009 2X Y	9	2,2	14	11	3	14
	SD70012 2X Y	12	3	18	15	5,5	18
	SD70020 2X Y	20	5,5	30	25	7,5	30
	SD70026 2X Y	26	7,5	39	33	9	39
2	SD70032 2X Y	32	9	48	40	11	48
	SD70039 2X Y	39	11	59	49	15	59
	SD70050 2X Y	50	15	75	63	18,5	75
3	SD70064 2X Y	64	18,5	96	80	22	96
	SD70075 2X Y	75	22	113	94	25	113
	SD70090 2X Y	90	25	135	113	33	135
	SD70115 2X Y	115	33	173	144	45	173
4	SD70150 2X Y	150	45	225	188	51	225
	SD70170 2X Y	170	51	255	213	63	255
5	SD70210 2X Y	210	63	315	263	75	315
	SD70250 2X Y	250	75	375	313	75	375
	SD70275 2X Y	275	75	413	344	100	413
6	SD70330 2X Y	330	100	495	413	110	495
	SD70370 2X Y	370	110	555	463	140	555
	SD70460 2X Y	460	140	690	575	185	690
7	SD70580 2X Y	580	185	870	725	200	870
	SD70650 2X Y	650	200	975	813	220	975
	SD70720 2X Y	720	220	1080	900	250	1080









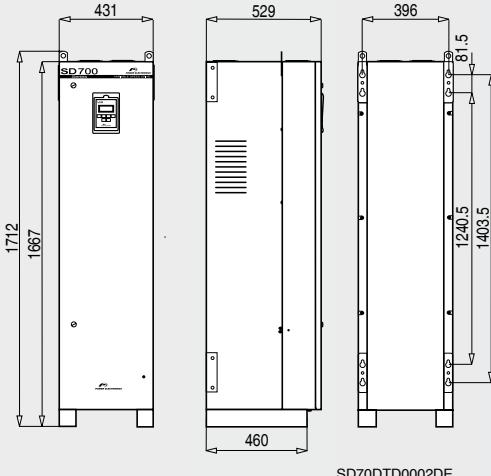
SD70DTD0001DE

**FRAME 3**

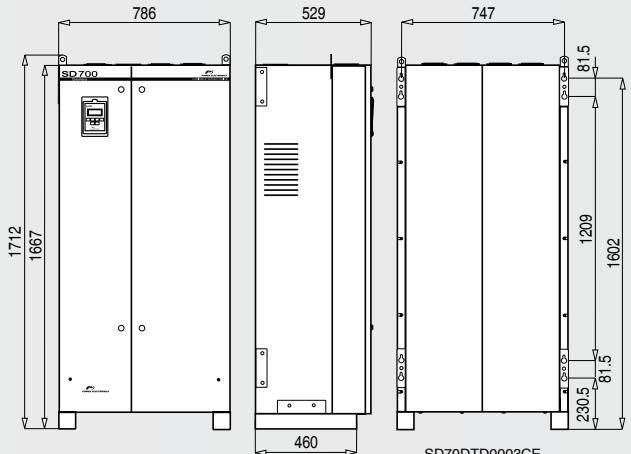
INPUT VOLTAGE				WEIGHT kg
230Vac (±20%)	380 – 500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
SD70064 2X Y	SD70060 5X Y		SD70052 6X Y	67.5
SD70075 2X Y	SD70075 5X Y	—	SD70062 6X Y	
SD70090 2X Y	SD70090 5X Y		—	
SD70115 2X Y	SD70115 5X Y		—	

**FRAME 4**

INPUT VOLTAGE				WEIGHT kg
230Vac (±20%)	380 – 500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
SD70150 2X Y	SD70150 5X Y	SD70100 7X Y	SD70080 6X Y	100
SD70170 2X Y	SD70170 5X Y	SD70120 7X Y	SD70105 6X Y	
—	—	SD70145 7X Y	—	



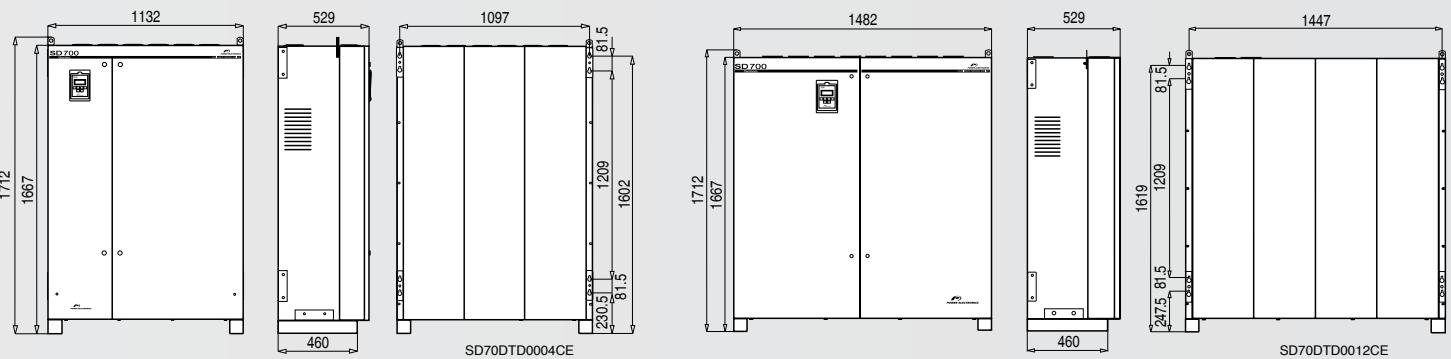
SD70DTD0002DE

**FRAME 5**

INPUT VOLTAGE				WEIGHT kg
230Vac (±20%)	380 – 500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
SD70210 2X Y	SD70210 5X Y	SD70180 7X Y	SD70130 6X Y	180
SD70250 2X Y	SD70250 5X Y	SD70205 7X Y	SD70150 6X Y	
SD70275 2X Y	SD70275 5X Y	—	SD70170 6X Y	

**FRAME 6**

INPUT VOLTAGE				WEIGHT kg
230Vac (±20%)	380 – 500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
SD70330 2X Y	SD70330 5X Y	SD70270 7X Y	SD70210 6X Y	340
SD70370 2X Y	SD70370 5X Y	SD70295 7X Y	SD70260 6X Y	
SD70460 2X Y	SD70460 5X Y	SD70340 7X Y	SD70320 6X Y	
—	SD70330 5X 12 Y	SD70270 7X 12 Y	SD70210 6X 12 Y	
—	SD70370 5X 12 Y	SD70295 7X 12 Y	SD70260 6X 12 Y	
—	SD70460 5X 12 Y	SD70340 7X 12 Y	SD70320 6X 12 Y	

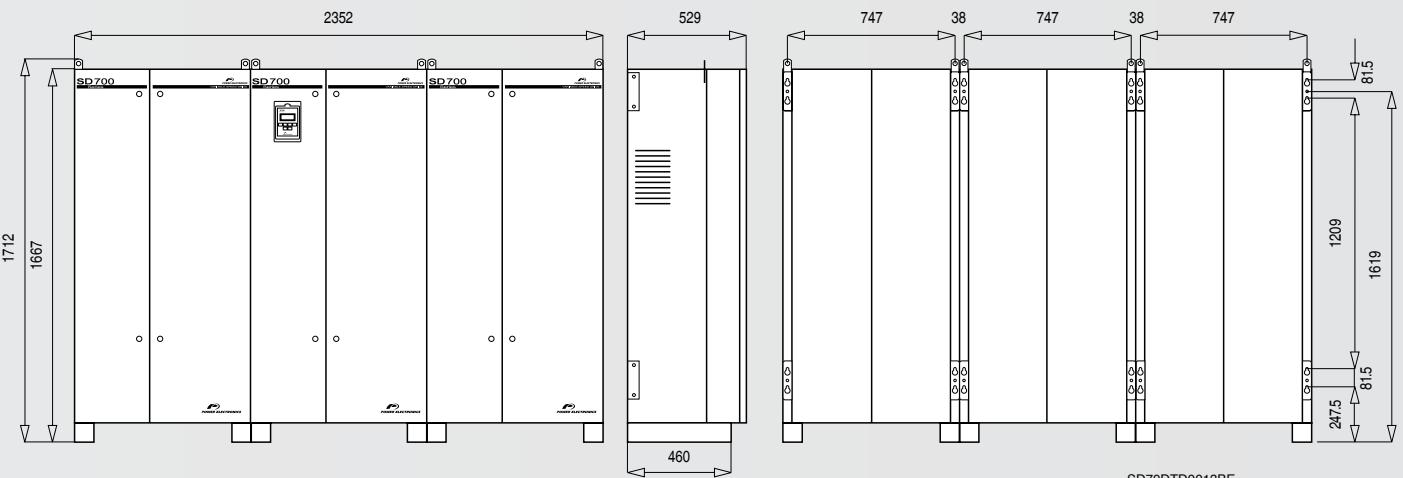


FRAME 7

INPUT VOLTAGE				WEIGHT kg
230Vac (±20%)	380 – 500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
SD70580 2X Y	SD70580 5X Y	SD70425 7X Y	SD70385 6X Y	
SD70650 2X Y	SD70650 5X Y	SD70470 7X Y	SD70460 6X Y	
SD70720 2X Y	SD70720 5X Y	SD70535 7X Y	SD70385 6X 18 Y	
-	SD70580 5X 18 Y	SD70425 7X 18 Y	SD70460 6X 18 Y	470
-	SD70650 5X 18 Y	SD70470 7X 18 Y	-	
-	SD70720 5X 18 Y	SD70535 7X 18 Y	-	

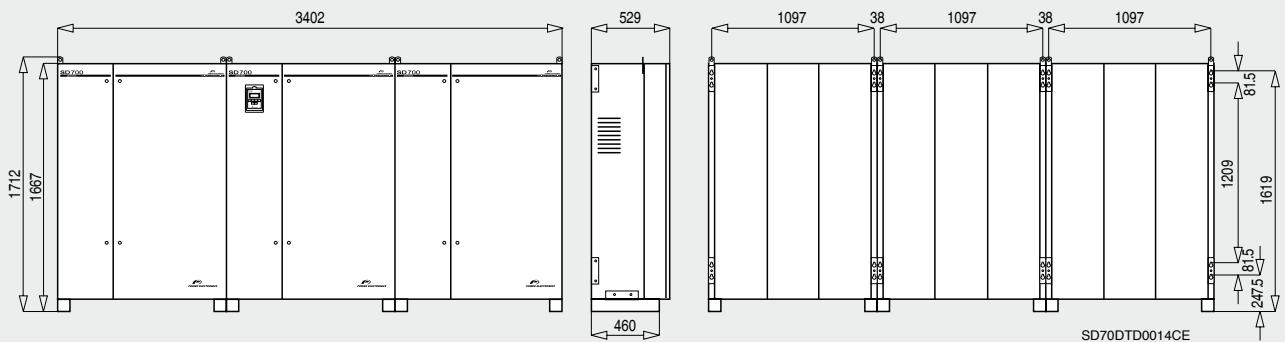
FRAME 8

INPUT VOLTAGE				WEIGHT kg
230Vac (±20%)	380 – 500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
-	SD70840 5X Y	SD70660 7X Y	SD70550 6X Y	
-	SD70925 5X Y	SD70750 7X Y	SD70660 6X Y	
-	SD70990 5X Y	SD70660 7X 12 Y	SD70550 6X 12 Y	
-	SD70840 5X 12 Y	SD70750 7X 12 Y	SD70660 6X 12 Y	585
-	SD70925 5X 12 Y	-	-	
-	SD70990 5X 12 Y	-	-	



FRAME 9

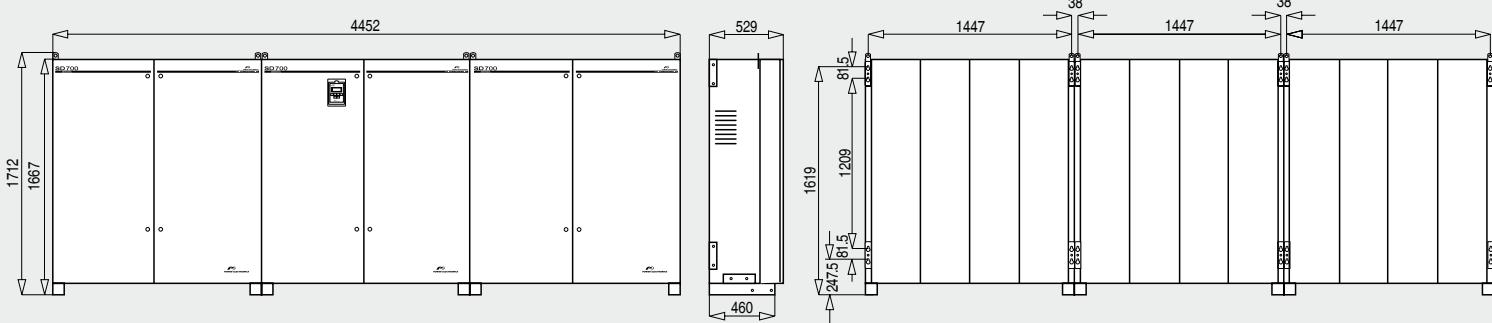
INPUT VOLTAGE				WEIGHT kg
230Vac (±20%)	380 – 500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
-	SD71150 5X Y	SD70845 7X Y	SD70750 6X Y	
-	SD71260 5X Y	SD70950 7X Y	SD70840 6X Y	
-	SD71440 5X Y	SD70845 7X 12 Y	SD70950 6X Y	
-	SD71150 5X 12 Y	SD70950 7X 12 Y	SD70750 6X 12 Y	
-	SD71260 5X 12 Y	SD70845 7X 18 Y	SD70840 6X 12 Y	
-	SD71440 5X 12 Y	SD70950 7X 18 Y	SD70950 6X 12 Y	1005
-	SD71150 5X 18 Y	-	SD70750 6X 18 Y	
-	SD71260 5X 18 Y	-	SD70840 6X 18 Y	
-	SD71440 5X 18 Y	-	SD70950 6X 18 Y	



### FRAME 10

INPUT VOLTAGE				WEIGHT kg
230Vac ( $\pm 20\%$ )	380 – 500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
—	SD71580 5X Y SD71800 5X Y SD71580 5X 18 Y SD71800 5X 18 Y — — — —	SD71070 7X Y SD71205 7X Y SD71340 7X Y SD71605 7X Y SD71070 7X 18 Y SD71205 7X 18 Y SD71340 7X 18 Y SD71605 7X 18 Y	SD71140 6X Y SD71270 6X Y SD71420 6X Y SD71140 6X 18 Y SD71270 6X 18 Y SD71420 6X 18 Y — —	1437

22



### FRAME 11

INPUT VOLTAGE				WEIGHT kg
230Vac ( $\pm 20\%$ )	380 – 500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
—	SD72200 5X Y SD72200 5X 12 Y SD72200 5X 18 Y — — —	SD72005 7X Y SD72005 7X 12 Y SD72005 7X 18 Y — — —	SD71500 6X Y SD71800 6X Y SD71500 6X 12 Y SD71800 6X 12 Y SD71500 6X 18 Y SD71800 6X 18 Y	1755

# 11 SD700 KOMPAKT

> Our most compact drive

Our most compact SD700 series still offers the best control and power features.

Its design allows its installation inside cabinets and control rooms in the easiest possible way, offering the same wiring concept than a contactor, the user will access to the power input terminals on the top while the output power terminals are located in the bottom.



## Input inductances (CHOKE)

SD700 Kompakt series offers input inductances, connected externally in series, in order to reduce the current and voltage harmonic distortion. This aspect makes its features equivalent to SD700.

*Simple wiring*

*Operation at 50°C*

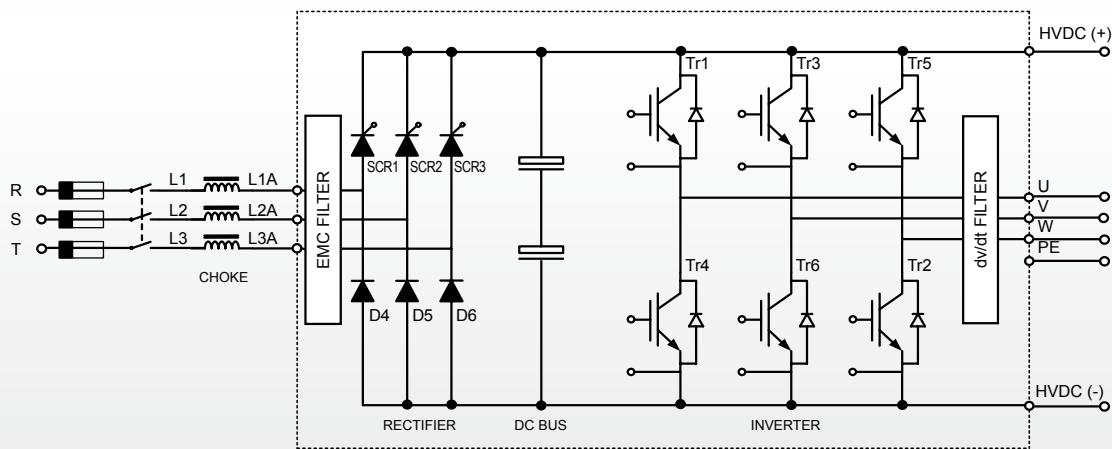
*dV/dt Filtres (300m...)*

*Built-in RFI Filters*

*software and hardware unified with standard SD700*

*Installation space optimization*

23



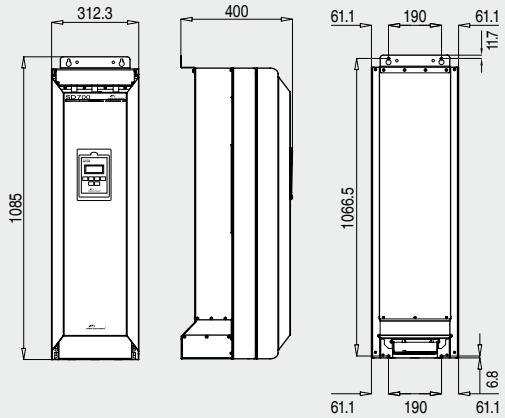
SD70DTP0001BI

SD700 Kompakt Power Electronics

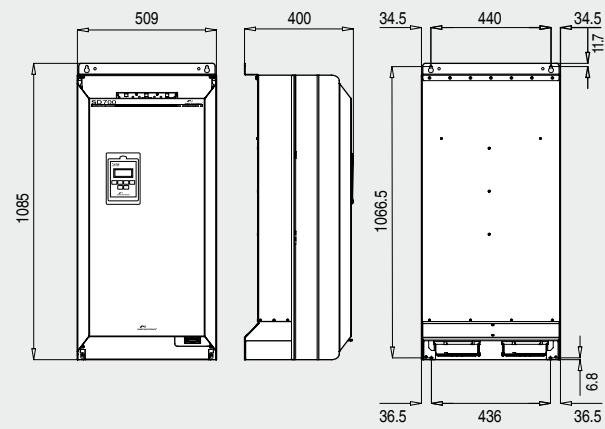


# 13 SD700 KOMPAKT

## > dimensions IP00



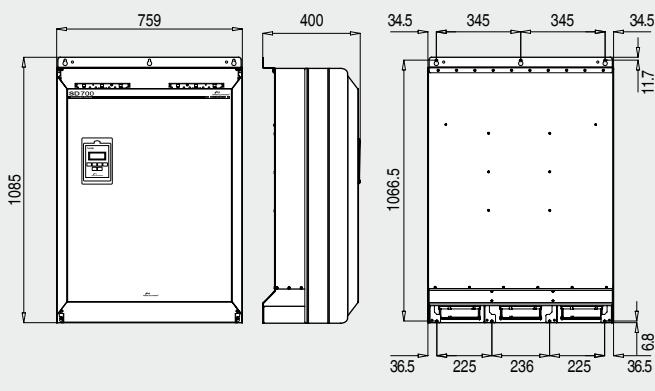
FRAME 1 - IP00



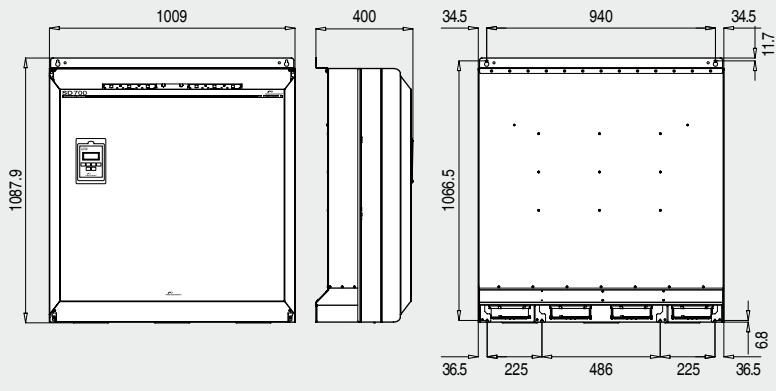
FRAME 2 - IP00

INPUT VOLTAGE				WEIGHT kg
230Vac (±20%)	380-500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
SD7K0210 20 Y	SD7K0210 50 Y	SD7K0180 70 Y	SD7K0130 60 Y	78,2
SD7K0250 20 Y	SD7K0250 50 Y	SD7K0205 70 Y	SD7K0150 60 Y	
SD7K0275 20 Y	SD7K0275 50 Y		SD7K0170 60 Y	

INPUT VOLTAGE				WEIGHT kg
230Vac (±20%)	380-500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
SD7K0330 20 Y	SD7K0330 50 Y	SD7K0270 70 Y	SD7K0210 60 Y	
SD7K0370 20 Y	SD7K0370 50 Y	SD7K0295 70 Y	SD7K0260 60 Y	148
SD7K0460 20 Y	SD7K0460 50 Y	SD7K0340 70 Y	SD7K0320 60 Y	



FRAME 3 - IP00

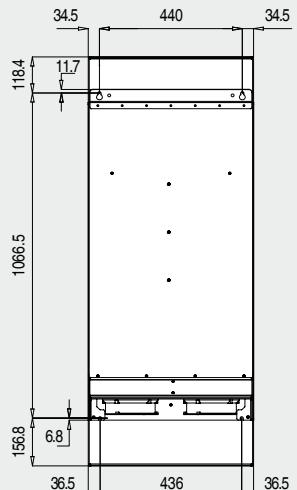
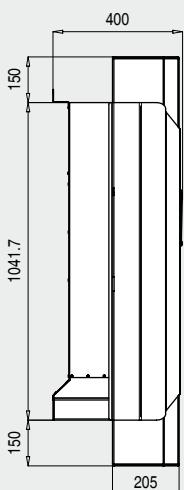
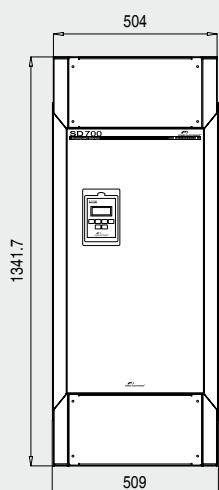
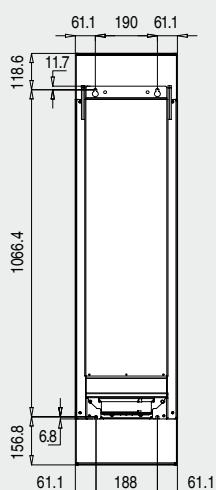
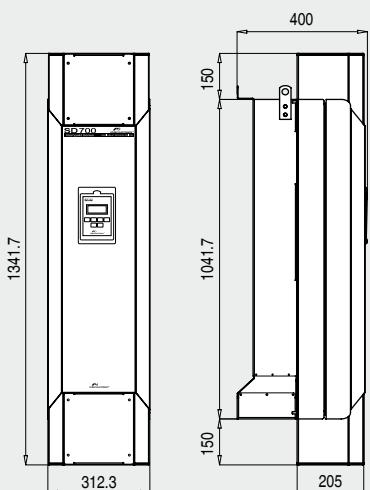


FRAME 4 - IP00

INPUT VOLTAGE				WEIGHT kg
230Vac (±20%)	380-500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
SD7K0580 20 Y	SD7K0580 50 Y	SD7K0425 70 Y	SD7K0385 60 Y	200
SD7K0650 20 Y	SD7K0650 50 Y	SD7K0470 70 Y	SD7K0460 60 Y	
SD7K0720 20 Y	SD7K0720 50 Y	SD7K0535 70 Y		

INPUT VOLTAGE				WEIGHT kg
230Vac (±20%)	380-500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
	SD7K0840 50 Y	SD7K0660 70 Y	SD7K0550 60 Y	
	SD7K0925 50 Y	SD7K0750 70 Y	SD7K0660 60 Y	
	SD7K0990 50 Y	SD7K0660 70 12 Y	SD7K0550 60 12 Y	
	SD7K0840 50 12 Y	SD7K0750 70 12 Y	SD7K0660 60 12 Y	280
	SD7K0925 50 12 Y			
	SD7K0990 50 12 Y			

## > dimensions IP20

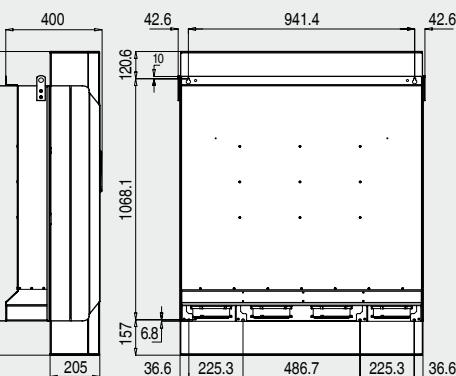
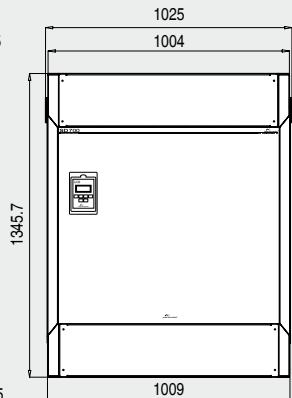
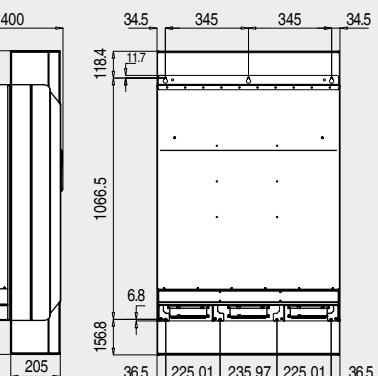
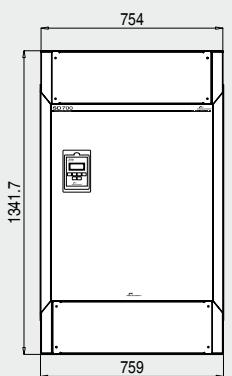


**FRAME 1 - IP20**

INPUT VOLTAGE				WEIGHT kg
230Vac ( $\pm 20\%$ )	380-500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
SD7K0210 22 Y	SD7K0210 52 Y	SD7K0180 72 Y	SD7K0130 62 Y	85,5
SD7K0250 22 Y	SD7K0250 52 Y	SD7K0205 72 Y	SD7K0150 62 Y	
SD7K0275 22 Y	SD7K0275 52 Y		SD7K0170 62 Y	

**FRAME 2 - IP20**

INPUT VOLTAGE				WEIGHT kg
230Vac ( $\pm 20\%$ )	380-500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
SD7K0330 22 Y	SD7K0330 52 Y	SD7K0270 72 Y	SD7K0210 62 Y	159
SD7K0370 22 Y	SD7K0370 52 Y	SD7K0295 72 Y	SD7K0260 62 Y	
SD7K0460 22 Y	SD7K0460 52 Y	SD7K0340 72 Y	SD7K0320 62 Y	



**FRAME 3 - IP20**

INPUT VOLTAGE				WEIGHT kg
230Vac ( $\pm 20\%$ )	380-500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
SD7K0580 22 Y	SD7K0580 52 Y	SD7K0425 72 Y	SD7K0385 62 Y	215,3
SD7K0650 22 Y	SD7K0650 52 Y	SD7K0470 72 Y	SD7K0460 62 Y	
SD7K0720 22 Y	SD7K0720 52 Y	SD7K0535 72 Y		

**FRAME 4 - IP20**

INPUT VOLTAGE				WEIGHT kg
230Vac ( $\pm 20\%$ )	380-500Vac (-20% to +10%)	525Vac (-20% to +10%)	690Vac (-15% to +10%)	
	SD7K0840 52 Y	SD7K0660 72 Y	SD7K0550 62 Y	299,7
	SD7K0925 52 Y	SD7K0750 72 Y	SD7K0660 62 Y	
	SD7K0990 52 Y	SD7K0660 72 12 Y	SD7K0550 62 12 Y	
	SD7K0840 52 12 Y	SD7K0750 72 12 Y	SD7K0660 62 12 Y	
	SD7K0925 52 12 Y	SD7K0750 72 12 Y	SD7K0660 62 12 Y	
	SD7K0990 52 12 Y			

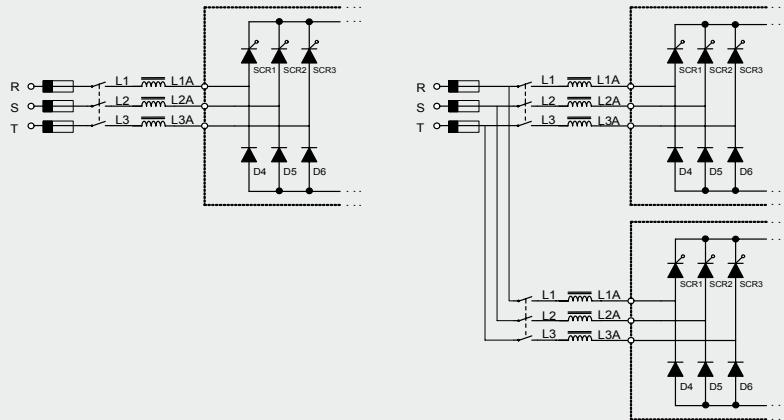
# 14 SD700 KOMPAKT

## > inductances connection and dimensions

230Vac EQUIPMENTS							400-500Vac EQUIPMENTS													
DRIVE		INDUCTANCE					DRIVE		INDUCTANCE											
FRAME	REFERENCE	REFERENCE	I(A)	QUANT.	CONNECTION	WEIGHT (kg)	FRAME	REFERENCE	REFERENCE	I(A)	QUANT.	CONNECTION	WEIGHT (kg)							
1	SD7K0210 2X Y	P246B	250	1	Type A	33	1	SD7K0210 5X Y	P246B	250	1	Type A	33							
	SD7K0250 2X Y							SD7K0250 5X Y												
	SD7K0275 2X Y							SD7K0275 5X Y												
2	SD7K0330 2X Y	P256A	370	1	Type A	65	2	SD7K0330 5X Y	P256A	370	1	Type A	65							
	SD7K0370 2X Y							SD7K0370 5X Y												
	SD7K0460 2X Y	P233A	500	1	Type A	53		SD7K0460 5X Y	P233A	500	1	Type A	53							
3	SD7K0580 2X Y	P297A	290	2	Type B	48	3	SD7K0580 5X Y	P297A	290	2	Type B	48							
	SD7K0650 2X Y	P298A	360	2	Type B	43		SD7K0650 5X Y	P298A	360	2	Type B	43							
	SD7K0720 2X Y							SD7K0720 5X Y												
525Vac EQUIPMENTS							690Vac EQUIPMENTS													
DRIVE		INDUCTANCE					DRIVE		INDUCTANCE											
FRAME	REFERENCE	REFERENCE	I(A)	QUANT.	CONNECTION	WEIGHT (kg)	FRAME	REFERENCE	REFERENCE	I(A)	QUANT.	CONNECTION	WEIGHT (kg)							
1	SD7K0180 7X Y	P317A	210	1	Type A	40	4	SD7K0130 6X Y	P233A	500	2	Type B	53							
	SD7K0205 7X Y	P246B	250	1	Type A	33		SD7K0150 6X Y												
2	SD7K0270 7X Y	P233A	500	1	Type A	53		SD7K0170 6X Y												
	SD7K0295 7X Y							SD7K0210 6X Y	P317A	210	1	Type A	40							
	SD7K0340 7X Y							SD7K0260 6X Y	P318A	330	1	Type A	62							
3	SD7K0425 7X Y	P298A	360	2	Type B	43		SD7K0320 6X Y	P319A	230	2	Type B	42							
	SD7K0470 7X Y							SD7K0385 6X Y	P318A	330	2	Type B	62							
	SD7K0535 7X Y	P297A	290	2	Type B	48	SD7K0460 6X Y													
	SD7K0660 7X Y	P233A	500	2	Type B	53	SD7K0550 6X Y													
	SD7K0750 7X Y						SD7K0660 6X Y													
	SD7K0660 7X 12 Y						SD7K0550 6X 12 Y													
	SD7K0750 7X 12 Y						SD7K0660 6X 12 Y													

connection TYPE A

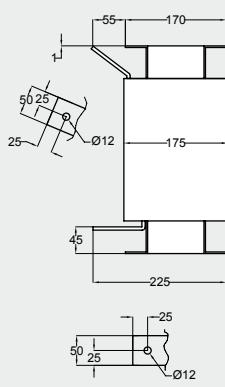
connection TYPE B



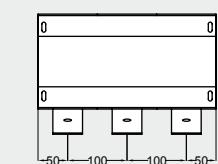
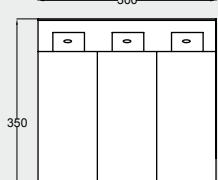
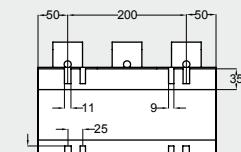


## > inductances connection and dimensions

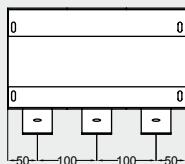
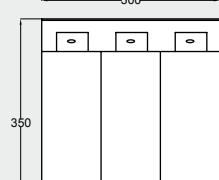
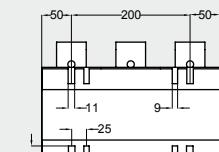
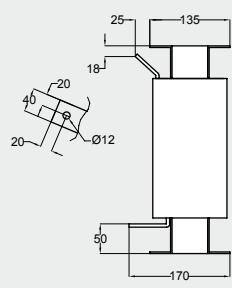
INDUCTANCE P233A



SD7KDTD0011A

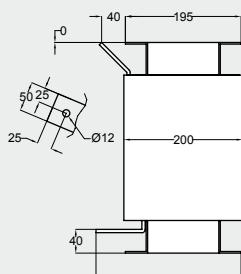


INDUCTANCE P246B

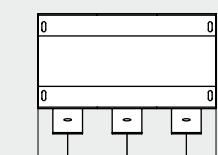
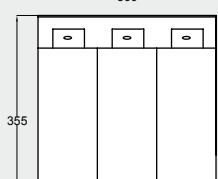
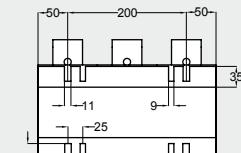


SD7KDTD0009A

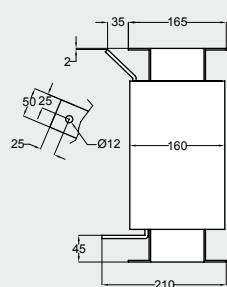
INDUCTANCE P256A



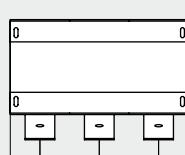
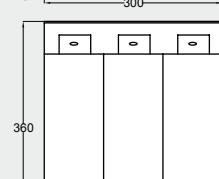
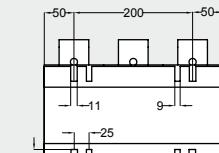
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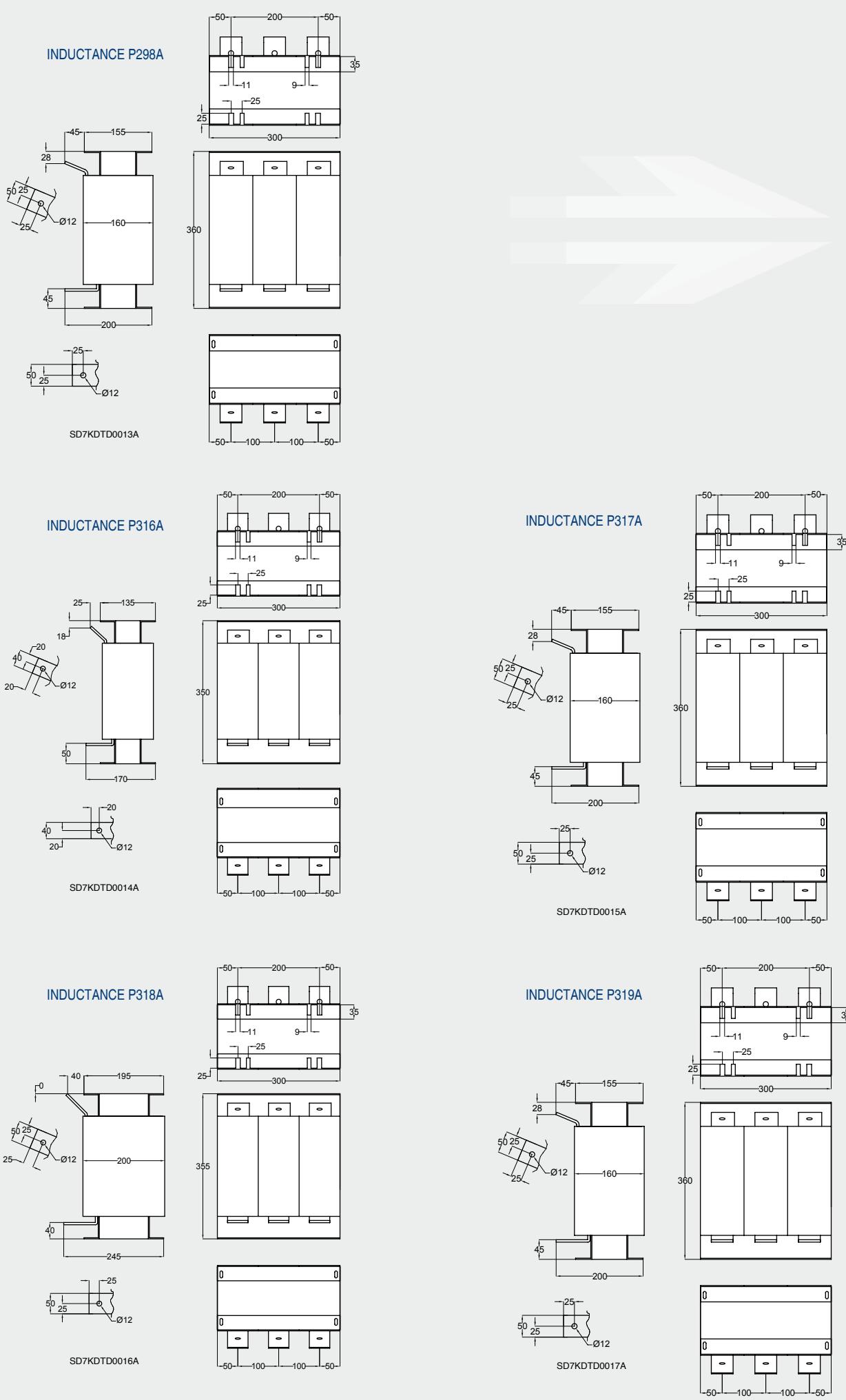


INDUCTANCE P297A



SD7KDTD0012A

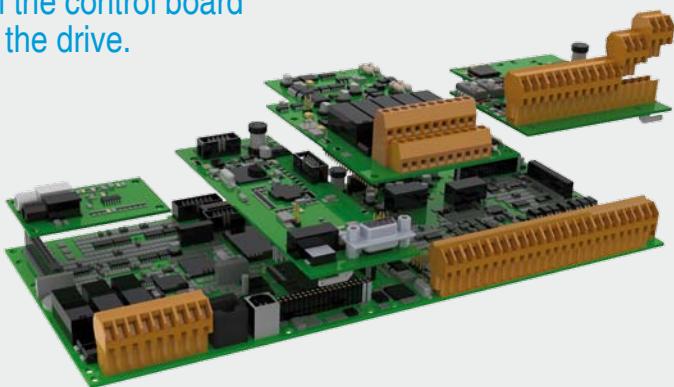




# 15 SD700 AND KOMPAKT > options

Integrated filters, options and accessories provide additional capabilities without increasing the enclosure size and minimizing the installation space.

Communication boards (Profibus, Ethernet, ...) optional I/O, encoder, fibre optic and several options are directly plugged on the control board of the drive.

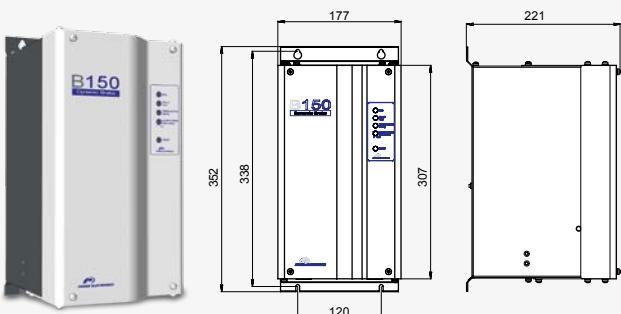


## Dynamic Braking Unit B150

Utilisation of a dynamic brake unit provides the SD700 drives with the capability of coping with regeneration as may be experienced during the deceleration of a high inertia load (e.g. a large fan or centrifuge), or a regenerative load (as the descending movement in a crane).

The dynamic braking module transform this regenerative energy to heat in the dynamic brake resistors, maintaining in this way the control of the motor.

The B150 with reduced dimensions and high reliability, is one of the main power switching device of such a dynamic braking systems.



## ACCESSORIES

REFERENCE	DESCRIPTION
<b>SD7PD</b>	Profibus Communication Module
<b>SD7ET</b>	Ethernet Communication Module
<b>SD7DN</b>	DeviceNet Communication Board
<b>SD7EC</b>	Encoder Board
<b>SD7IO</b>	Inputs / Outputs Board
<b>SD7ES01E</b>	External 24V Power Supply - Frames 1, 2 and 3 - Exterior
<b>SD7ES04I</b>	External 24V Power Supply - Frame 4 - Interior
<b>SD7ES05I</b>	External 24V Power Supply - Frame 5 - Interior
<b>SD7ES06I</b>	External 24V Power Supply - Frames 6, 7, 9 and 10 - Interior
<b>SD7ES08I</b>	External 24V Power Supply - Frames 8 and 11 - Interior
<b>SD7FO</b>	Fibre Optic Board
<b>SD7TD</b>	Graphic Display with Touch Screen
<b>V11</b>	Kit 3m extender for display
<b>V12</b>	Kit 5m extender for display
<b>GSM01</b>	GSM Module
<b>B150</b>	Dynamic Braking Unit
N2 Metasys Communication Module*	

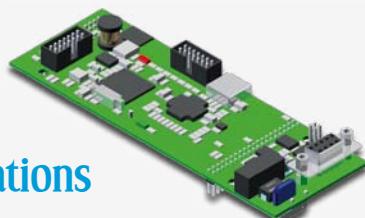
(\*) Consult availability with Power Electronics



## Inputs/Outputs Board

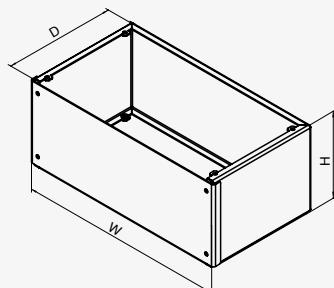
Always considering constant improvement, the SD700 offers the possibility of increasing the number of inputs and outputs. To achieve this an optional board is available with:

- 4 Programmable digital inputs optically isolated.
- 1 Programmable analogue input.
- 5 Digital outputs
- 1 Programmable analogue output.



## Communications Boards

The SD700 Series offers interfaces to some of the most important communication networks such as Modbus-RTU, Profibus-DP, Ethernet, DeviceNet, N2 Metasys,... From a technical perspective, the SD700 gains an improvement of installation performance by its integration into these networks. It allows for complete control and simple integration of new equipment into the network.

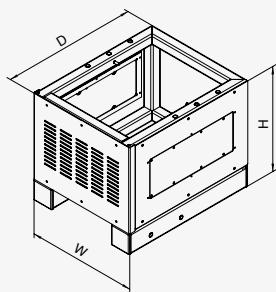


#### EXTENSION BOX SD700

FRAME	CODE	DIMENSIONS (mm)		
		W	H	D
T1	SD7EB1	189	122	161
T2	SD7EB2	295	122	161
T3	SD7EB3	300	151	168

#### Code explanation: SD7PL0520

SD7	PL05	20
SD700 Series	Frame 5 Plinth	Total height 2000mm

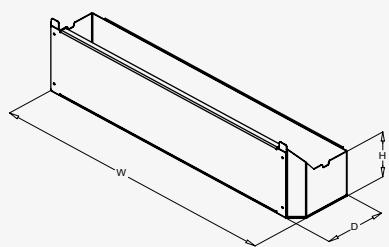
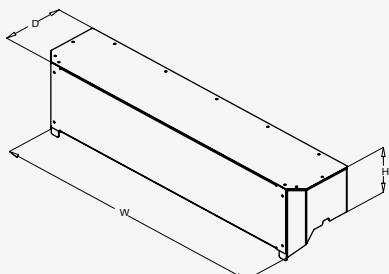


#### PLINTH FOR SD700

FRAME	CODE	DIMENSIONS (mm)			TOTAL DRIVE HEIGHT
		W	H	D	
5	SD7PL0520	425	413,5	529	2000
	SD7PL0522	425	613,5	529	2200
6	SD7PL0620	780	413,5	529	2000
	SD7PL0622	780	613,5	529	2200
7	SD7PL0720	1126	413,5	529	2000
	SD7PL0722	1126	613,5	529	2200
8	SD7PL0820	1476	413,5	529	2000
	SD7PL0822	1476	613,5	529	2200
9	SD7PL0920	3 X SD7PL0620			2000
	SD7PL0922	3 X SD7PL0622			2200
10	SD7PL1020	3 X SD7PL0720			2000
	SD7PL1022	3 X SD7PL0722			2200
11	SD7PL1120	3 X SD7PL0820			2000
	SD7PL1122	3 X SD7PL0822			2200

#### EXTENSION BOX KOMPAKT

FRAME	CODE	DIMENSIONS (mm)		
		W	H	D
T1	SD7KEB1	303	150	202
T2	SD7KEB2	501	150	202
T3	SD7KEB3	751	150	202
T4	SD7KEB4	1001	150	202





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