

*Danfoss*

# Datasheet



VLT® 2800

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■ VLT 2800



# **Order form**

This section makes it easier for you to specify and order a VLT 2800.

## **Choice of frequency converter**

The frequency converter must be chosen on the basis of the present motor current at maximum loading of the unit. The frequency converter's rated output current  $I_{INV}$  must be equal to or greater than the required motor current.

## **Mains voltage**

VLT 2800 is available for two mains voltage ranges: 200-240 V and 380-480 V.

Select whether the frequency converter is connected to a mains voltage of:

- 1 x 220 - 240 V single-phase AC voltage
- 3 x 200 - 240 V three-phase AC voltage
- 3 x 380 - 480 V three-phase AC voltage

### **1 x 220 - 240 Volt mains voltage**

| Typical shaft output<br>$P_{INV}$ |      |      | Max. constant output current $I_{INV}$ | Max. constant output power at<br>230 V $S_{INV}$ |
|-----------------------------------|------|------|----------------------------------------|--------------------------------------------------|
| Type                              | [kW] | [HP] | [A]                                    | [kVA]                                            |
| 2803                              | 0.37 | 0.5  | 2.2                                    | 0.9                                              |
| 2805                              | 0.55 | 0.75 | 3.2                                    | 1.3                                              |
| 2807                              | 0.75 | 1.0  | 4.2                                    | 1.7                                              |
| 2811                              | 1.1  | 1.5  | 6.0                                    | 2.4                                              |
| 2815                              | 1.5  | 2.0  | 6.8                                    | 2.7                                              |
| 2822                              | 2.2  | 3.0  | 9.6                                    | 3.8                                              |
| 2840                              | 3.7  | 5.0  | 16                                     | 6.4                                              |

### **3 x 200 - 240 Volt mains voltage**

| Typical shaft output<br>$P_{INV}$ |      |      | Max. constant output current $I_{INV}$ | Max. constant output power at<br>230 V $S_{INV}$ |
|-----------------------------------|------|------|----------------------------------------|--------------------------------------------------|
| Type                              | [kW] | [HP] | [A]                                    | [kVA]                                            |
| 2803                              | 0.37 | 0.5  | 2.2                                    | 0.9                                              |
| 2805                              | 0.55 | 0.75 | 3.2                                    | 1.3                                              |
| 2807                              | 0.75 | 1.0  | 4.2                                    | 1.7                                              |
| 2811                              | 1.1  | 1.5  | 6.0                                    | 2.4                                              |
| 2815                              | 1.5  | 2.0  | 6.8                                    | 2.7                                              |
| 2822                              | 2.2  | 3.0  | 9.6                                    | 3.8                                              |
| 2840                              | 3.7  | 5.0  | 16.0                                   | 6.4                                              |

3 x 380 - 480 Volt mains voltage

| Typical shaft output<br>$P_{INV}$ |      |      | Max. constant output current $I_{INV}$ | Max. constant output power at<br>400 V $S_{INV}$ |
|-----------------------------------|------|------|----------------------------------------|--------------------------------------------------|
| Type                              | [kW] | [HP] | [A]                                    | [kVA]                                            |
| 2805                              | 0.55 | 0.75 | 1.7                                    | 1.1                                              |
| 2807                              | 0.75 | 1.0  | 2.1                                    | 1.7                                              |
| 2811                              | 1.1  | 1.5  | 3.0                                    | 2.0                                              |
| 2815                              | 1.5  | 2.0  | 3.7                                    | 2.6                                              |
| 2822                              | 2.2  | 3.0  | 5.2                                    | 3.6                                              |
| 2830                              | 3.0  | 4.0  | 7.0                                    | 4.8                                              |
| 2840                              | 4.0  | 5.0  | 9.1                                    | 6.3                                              |
| 2855                              | 5.5  | 7.5  | 12.0                                   | 8.3                                              |
| 2875                              | 7.5  | 10.0 | 16.0                                   | 11.1                                             |
| 2880                              | 11   | 15   | 24                                     | 16.6                                             |
| 2881                              | 15   | 20   | 32                                     | 22.2                                             |
| 2882                              | 18.5 | 25   | 37.5                                   | 26.0                                             |

#### ■ Enclosure

All VLT 2800 units are supplied with IP 20 enclosure as standard.

This enclosure level is ideal for panel mounting in areas where a high degree of protection is required; at the same time IP 20 enclosures allow side-by-side installation without any need for extra cooling equipment.

IP 20 units can be upgraded with IP 21 / top cover and/or NEMA 1 by fitting a terminal cover. See ordering number for terminal cover under *Accessories for VLT 2800*.

In addition, VLT 2880-82 and 2840 PD2 units are supplied with Nema 1 enclosure as standard.

#### ■ Harmonic filter

The harmonic currents do not affect power consumption directly, but they increase the heat losses in the installation (transformer, cables). That is why, in a system with a relatively high percentage of rectifier load, it is important to keep the harmonic currents at a low level so as to avoid a transformer overload and high cable temperature. For the purpose of ensuring low harmonic currents, VLT 2822-2840 3 x 200-240 V and VLT 2805-2882 380-480 V are fitted with coils in their intermediate circuit as standard. This reduces the input current  $I_{RMS}$  by typically 40 %.

Please note that 1 x 220-240 V units up to 1.5 kW are not supplied with coils in their intermediate circuit.

#### ■ Brake

VLT 2800 is available with or without an integral brake module. See also the section entitled *Brake resistors* for ordering a Brake resistor.

#### ■ RFI filter

VLT 2800 is available with or without an integral 1A RFI-filter. The integral 1A RFI filter complies with EMC standards EN 55011-1A.

With an integral RFI filter there is compliance with EN 55011-1B with a max. 15-metre screened/armoured motor cable on VLT 2803-2815 1 x 220-240 Volt.

VLT 2880-82 with integral 1B filter comply with EMC standard EN 55011 - 1B



## ■ Control unit

The frequency converter is always supplied with an integral control unit.

All displays are in the form of a six-digit LED display capable of showing one item of operating data continuously during normal operation. As a supplement to the display, there are three indicator lamps for voltage (ON), warning (WARNING) and alarm (ALARM). Most of the frequency converter's parameter Setups can be changed immediately via the integral control panel.

An LCP 2 control panel to be connected via a plug to the front of the frequency converter is available as an option. The LCP 2 control panel can be installed up to 3 metres away from the frequency converter, e.g. on a front panel, by means of the accompanying mounting kit.

All displays of data are via a 4-line alpha-numerical display, which in normal operation is able to show 4 operating data items and 3 operation modes continuously. During programming, all the information required for quick, efficient parameter Setup of the frequency converter is displayed. As a supplement to the display, there are three indicator lamps for voltage (ON), warning (WARNING) and alarm (ALARM). Most of the frequency converter's parameter Setups can be changed immediately via the LCP 2 control panel. See also the section entitled *The LCP 2 control unit* in the Design Guide.

## ■ FC protocol

Danfoss frequency converters are able to fulfill many different functions in a monitoring SYSTEM. The frequency converter can be integrated directly in an overall surveillance SYSTEM, which will allow detailed process data to be transferred via serial communication.

The protocol standard is based on an RS 485 bus SYSTEM with a maximum transmission speed of 9600 baud. The following Drive profiles are supported as standard:

- FC Drive, which is a profile adapted to Danfoss.
- Profidrive, which supports the profidrive profile.

See *Serial communication* for further details of telegram structure and Drive profile.

## ■ Fieldbus option

The increasing information requirements in industry make it necessary to collect or visualize many different process data. Important process data help the system

technician with the daily monitoring of the system. The large amounts of data involved in major systems make a higher transmission speed than 9600 baud desirable.

*Fieldbus option*

### Profibus

Profibus is a fieldbus system, which can be used for linking automation devices such as sensors and actuators with the controls by means of a two-conductor cable. Profibus DP is a very fast communication protocol, made specially for communication between the automation system and various types of equipment. Profibus is a registered trade mark.

### DeviceNet

DeviceNet fieldbus systems can be used for linking automation devices such as sensors and actuators with the controls by means of a four-wire conductor cable.

DeviceNet is a medium speed communication protocol, made specially for communication between the automation system and various types of equipment. Units with DeviceNet protocol cannot be controlled by FC protocol and Profidrive protocol.

VLT Software Dialog can be used on the Sub D plug.

## ■ Motor coils

By fitting the motor coil module between the frequency converter and the motor it is possible to use up to 200 metres of unscreened/unarmoured motor cable or 100 metres of screened/armoured motor cable. The motor coil module has an enclosure of IP 20 and can be installed side-by-side.



### NB!

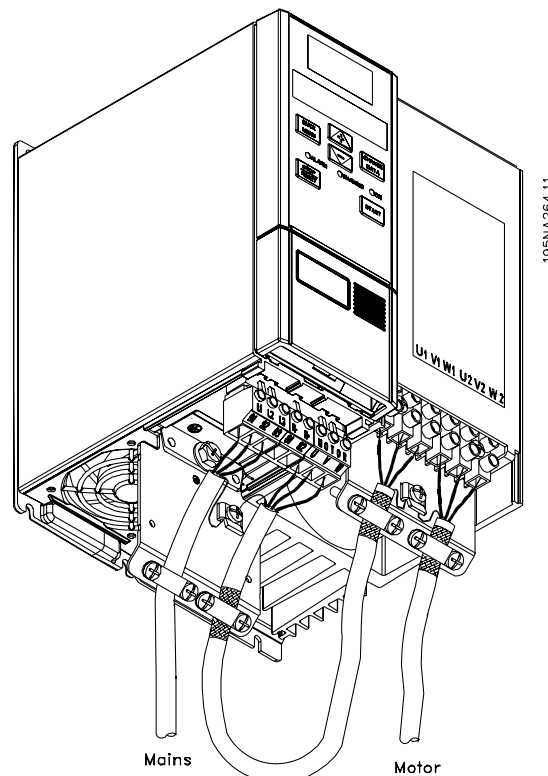
To have long motor cables and still comply with EN55011-1A, motor coil and EMC filter for long motor cables are needed.



### NB!

To comply with EN55011-1A the EMC filter for long motor cables can only be fitted to a VLT 2800 with integral 1A filter (R1 option).

See also the section EMC Emission.



### Technical data for VLT 2803-2875 Motor coils

|                                                         |                        |
|---------------------------------------------------------|------------------------|
| Max. cable length (unscreened/unarmoured) <sup>1)</sup> | 200 m                  |
| Max. cable length (screened/armoured) <sup>1)</sup>     | 100 m                  |
| Enclosure                                               | IP 20                  |
| Max. rated current <sup>1)</sup>                        | 16 A                   |
| Max. voltage <sup>1)</sup>                              | 480 V AC               |
| Min. distance between VLT and motor coil                | Side-by-side           |
| Min. distance above and below motor coil                | 100 mm                 |
| Mounting                                                | Vertical mounting only |
| Dimensions H x W x D (mm) <sup>2)</sup>                 | 200 x 90 x 152         |
| Weight                                                  | 3.8 kg                 |

<sup>1)</sup> Parameter 411 Switching frequency = 4500 Hz. <sup>2)</sup> For mechanical dimensions see under *Mechanical dimensions*.

See ordering number for motor coil module under *Accessories for VLT 2800*.

■ **RFI 1B filter**

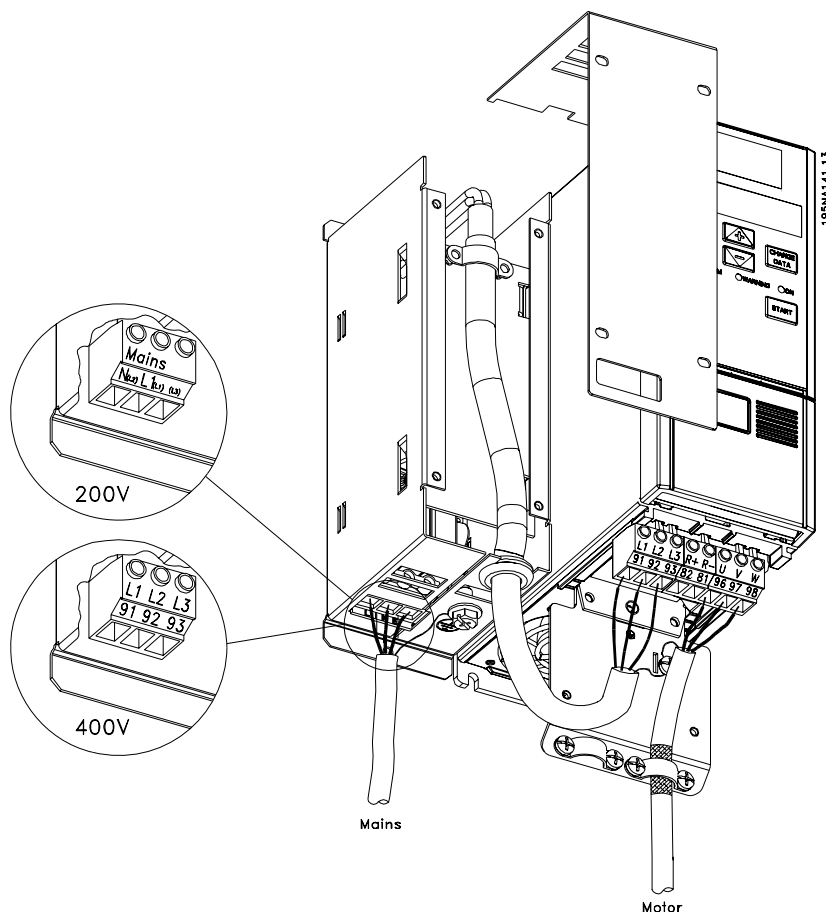
All frequency converters will cause electromagnetic noise in the mains supply when they are operating. An RFI (Radio Frequency Interference) filter will reduce the electromagnetic noise in the mains supply. Without an RFI filter there is a risk that a frequency converter will disrupt other electrical components that are connected to the mains and might thus cause operating disruption.

By fitting an RFI 1B filter module between the mains supply and the VLT 2800, the VLT 2800 complies with the EMC norm EN 55011-1B.



**NB!**

To comply with EN 55011-1B the RFI 1B filter module must be fitted together with a VLT 2800 with integral 1A RFI filter.



**Technical data for VLT 2803–2875 RFI 1B filter**

|                                                 |                        |
|-------------------------------------------------|------------------------|
| Max. cable length (screened/armoured) 200-240 V | 100 m (At 1A: 100 m)   |
| Max. cable length (screened/armoured) 380-480 V | 25 m (At 1A: 50 m)     |
| Enclosure                                       | IP 20                  |
| Max. rated current                              | 16 A                   |
| Max. Voltage                                    | 480 V AC               |
| Max. voltage to earth                           | 300 V AC               |
| Min. distance between VLT and RFI 1B filter     | Side-by-Side           |
| Min. distance above and below RFI 1B filter     | 100 mm                 |
| Mounting                                        | Vertical mounting only |
| Dimensions H x W x D (mm)                       | 200 x 60 x 87          |
| Weight                                          | 0.9 kg                 |

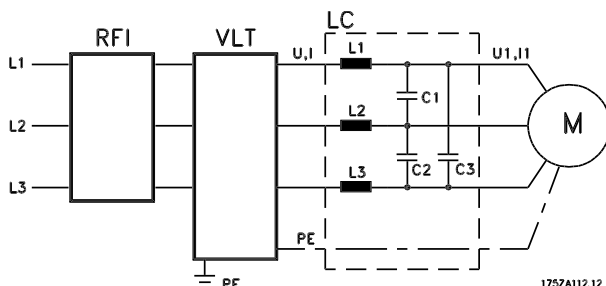
See ordering number for RFI 1B filter module under *Accessories for VLT 2800*.



## ■ RFI 1B/LC filter

The RFI 1B/LC filter contains both an RFI module that complies with EN 55011-1B and an LC filter that reduces the acoustic noise.

### LC filter



When a motor is controlled by a frequency converter, at times you will be able to hear the acoustic noise from the motor. The noise, which is caused by the design of the motor, is generated every time one of the inverter contacts in the frequency converter is activated. The frequency of the acoustic noise therefore corresponds to the frequency converter's connection frequency.

The filter reduces the voltage's  $du/dt$ , the peak voltage  $U_{peak}$  and ripple current  $\Delta I$  to the motor, so that the current and voltage are almost sine-shaped. The acoustic motor noise is thus reduced to a minimum.

Because of the ripple current in the coils some noise will be emitted by the coils. This problem can be solved completely by fitting the filter inside a cabinet or equivalent.

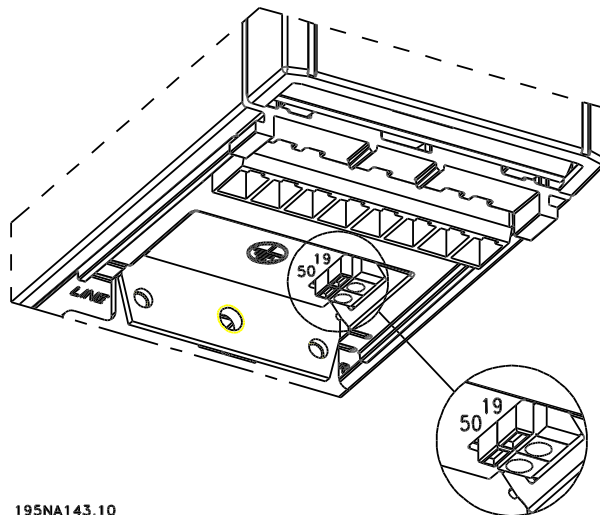
Danfoss can supply an LC filter for the VLT series 2800, which muffles the acoustic motor noise. Before the filters are put into use you must ensure that:

- rated current is observed
- mains voltage is 200-480 V
- parameter 412 *Variable switching frequency* is set to *LC filter attached* [3]
- output frequency is max. 120 Hz

See drawing on the next page.

## Installation of thermistor (PTC)

The RFI 1B/LC filter has an integral thermistor (PTC), which is activated if an overtemperature arises. The frequency converter can be programmed to stop the motor and activate an alarm via a relay output or a digital output if the thermistor is activated.

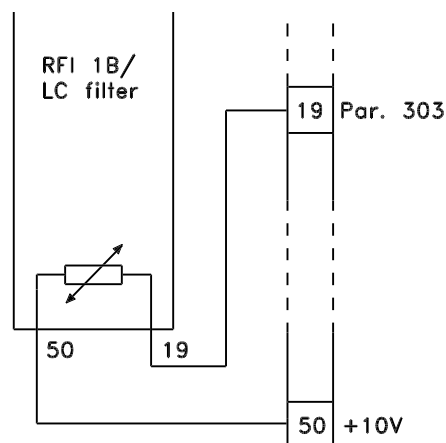


195NA143.10

The thermistor must be connected between terminal 50 (+10V) and one of the digital inputs 18, 19, 27 and 29.

In parameter 128 *Motor thermal protection*, *Thermistor warning* [1] or *Thermistor trip* [2] are selected

The thermistor is connected as follows:



195NA144.10

■ RFI 1B/LC filter



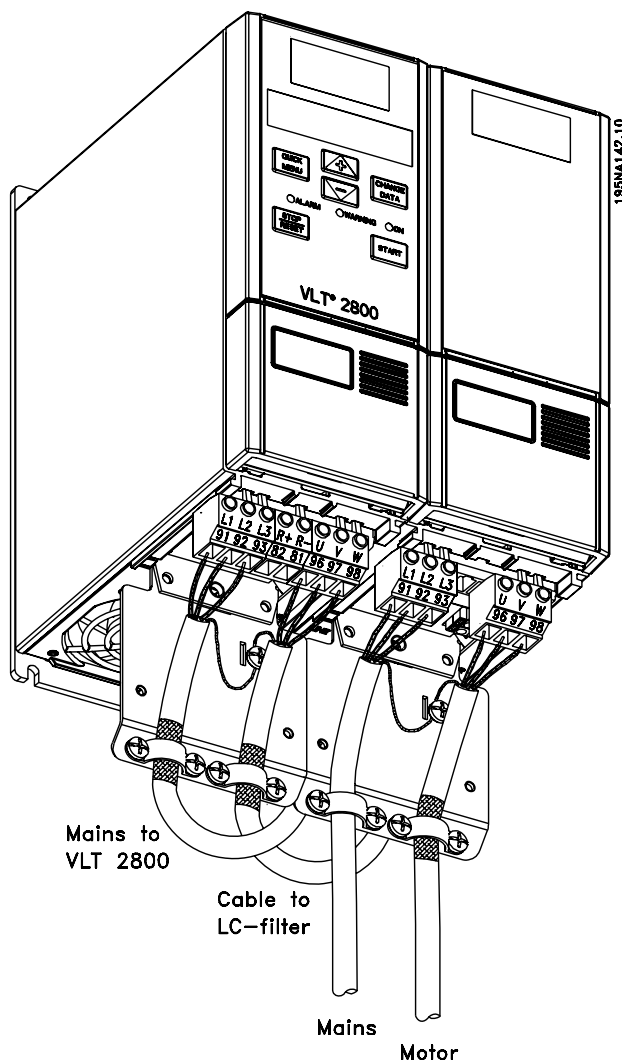
**NB!**

To comply with EN 55011-1B the RFI 1B filter module must be fitted to a VLT 2800 with integral 1A RFI filter.



**NB!**

The 1B/LC filter is not suitable for 200 V devices due to the high 1Ø input current.



Technical data for VLT 2803–2875 RFI 1B/LC filter

|                                                 |                                                      |
|-------------------------------------------------|------------------------------------------------------|
| Max. cable length (screened/armoured) 380-480 V | 25 m (At 1A: 50 m)                                   |
| Enclosure                                       | IP 20                                                |
| Max. rated current                              | 4.0 (Order no.: 195N3100); 9.1 (Order no.: 195N3101) |
| Max. voltage                                    | 480 V AC                                             |
| Max. voltage to earth                           | 300 V AC                                             |
| Min. distance between VLT and RFI 1B/LC filter  | Side-by-Side                                         |
| Min. distance above and below RFI 1B/LC filter  | 100 mm                                               |
| Mounting                                        | Vertical mounting only                               |
| Dimensions 195N3100 4.0 A H x W x D (mm)        | 200 x 75 x 168                                       |
| Dimensions 195N3101 9.1 A H x W x D (mm)        | 267.5 x 90 x 168                                     |
| Weight 195N3100 4.0 A                           | 2.4 kg                                               |
| Weight 195N3101 9.1 A                           | 4.0 kg                                               |

## VLT® 2800 Series

### ■ Ordering numbers for VLT 2800 200-240 V

| 0,37 kW VLT 2803 1 x 220-240 V / 3 x 200-240 V |      |                           |           |              |
|------------------------------------------------|------|---------------------------|-----------|--------------|
| RFI                                            | Unit | Profibus DP <sup>1)</sup> | DeviceNet | Ordering no. |
| 3 MBits/s                                      |      |                           |           |              |

|    |    |   |   |          |
|----|----|---|---|----------|
| -  | ST | - | - | 195N0001 |
| -  | SB | - | - | 195N0002 |
| R1 | ST | - | - | 195N0003 |
| R1 | SB | - | - | 195N0004 |
| -  | ST | ✓ | - | 195N0005 |
| -  | SB | ✓ | - | 195N0006 |
| R1 | ST | ✓ | - | 195N0007 |
| R1 | SB | ✓ | - | 195N0008 |
| -  | ST | - | ✓ | 195N0009 |
| -  | SB | - | ✓ | 195N0010 |
| R1 | ST | - | ✓ | 195N0011 |
| R1 | SB | - | ✓ | 195N0012 |

| 0,55 kW VLT 2805 1 x 220-240 V / 3 x 200-240 V |      |                           |           |              |
|------------------------------------------------|------|---------------------------|-----------|--------------|
| RFI                                            | Unit | Profibus DP <sup>1)</sup> | DeviceNet | Ordering no. |
| 3 MBits/s                                      |      |                           |           |              |

|    |    |   |   |          |
|----|----|---|---|----------|
| -  | ST | - | - | 195N0013 |
| -  | SB | - | - | 195N0014 |
| R1 | ST | - | - | 195N0015 |
| R1 | SB | - | - | 195N0016 |
| -  | ST | ✓ | - | 195N0017 |
| -  | SB | ✓ | - | 195N0018 |
| R1 | ST | ✓ | - | 195N0019 |
| R1 | SB | ✓ | - | 195N0020 |
| -  | ST | - | ✓ | 195N0021 |
| -  | SB | - | ✓ | 195N0022 |
| R1 | ST | - | ✓ | 195N0023 |
| R1 | SB | - | ✓ | 195N0024 |

| 0,75 kW VLT 2807 1 x 220-240 V / 3 x 200-240 V |      |                           |           |              |
|------------------------------------------------|------|---------------------------|-----------|--------------|
| RFI                                            | Unit | Profibus DP <sup>1)</sup> | DeviceNet | Ordering no. |
| 3 MBits/s                                      |      |                           |           |              |

|    |    |   |   |          |
|----|----|---|---|----------|
| -  | ST | - | - | 195N0025 |
| -  | SB | - | - | 195N0026 |
| R1 | ST | - | - | 195N0027 |
| R1 | SB | - | - | 195N0028 |
| -  | ST | ✓ | - | 195N0029 |
| -  | SB | ✓ | - | 195N0030 |
| R1 | ST | ✓ | - | 195N0031 |
| R1 | SB | ✓ | - | 195N0032 |
| -  | ST | - | ✓ | 195N0033 |
| -  | SB | - | ✓ | 195N0034 |
| R1 | ST | - | ✓ | 195N0035 |
| R1 | SB | - | ✓ | 195N0036 |

| 1,1 kW VLT 2811 1 x 220-240 V / 3 x 200-240 V |      |                           |           |              |
|-----------------------------------------------|------|---------------------------|-----------|--------------|
| RFI                                           | Unit | Profibus DP <sup>1)</sup> | DeviceNet | Ordering no. |
| 3 MBits/s                                     |      |                           |           |              |

|    |    |   |   |          |
|----|----|---|---|----------|
| -  | ST | - | - | 195N0037 |
| -  | SB | - | - | 195N0038 |
| R1 | ST | - | - | 195N0039 |
| R1 | SB | - | - | 195N0040 |
| -  | ST | ✓ | - | 195N0041 |
| -  | SB | ✓ | - | 195N0042 |
| R1 | ST | ✓ | - | 195N0043 |
| R1 | SB | ✓ | - | 195N0044 |
| -  | ST | - | ✓ | 195N0045 |
| -  | SB | - | ✓ | 195N0046 |
| R1 | ST | - | ✓ | 195N0047 |
| R1 | SB | - | ✓ | 195N0048 |

| 1,5 kW VLT 2815 1 x 220-240 V / 3 x 200-240 V |      |                           |           |              |
|-----------------------------------------------|------|---------------------------|-----------|--------------|
| RFI                                           | Unit | Profibus DP <sup>1)</sup> | DeviceNet | Ordering no. |
| 3 MBits/s                                     |      |                           |           |              |

|    |    |   |   |          |
|----|----|---|---|----------|
| -  | ST | - | - | 195N0049 |
| -  | SB | - | - | 195N0050 |
| R1 | ST | - | - | 195N0051 |
| R1 | SB | - | - | 195N0052 |
| -  | ST | ✓ | - | 195N0053 |
| -  | SB | ✓ | - | 195N0054 |
| R1 | ST | ✓ | - | 195N0055 |
| R1 | SB | ✓ | - | 195N0056 |
| -  | ST | - | ✓ | 195N0057 |
| -  | SB | - | ✓ | 195N0058 |
| R1 | ST | - | ✓ | 195N0059 |
| R1 | SB | - | ✓ | 195N0060 |

| 2,2 kW VLT 2822 PD2 1 x 220-240 V / 3 x 200-240 V |      |                           |           |              |
|---------------------------------------------------|------|---------------------------|-----------|--------------|
| RFI                                               | Unit | Profibus DP <sup>1)</sup> | DeviceNet | Ordering no. |
| 3 MBits/s                                         |      |                           |           |              |

|   |    |   |   |          |
|---|----|---|---|----------|
| - | ST | - | - | 178F5167 |
| - | ST | ✓ | - | 178F5168 |
| - | ST | - | ✓ | 178F5169 |

| 2,2 kW VLT 2822 3 x 200-240 V |      |                           |           |              |
|-------------------------------|------|---------------------------|-----------|--------------|
| RFI                           | Unit | Profibus DP <sup>1)</sup> | DeviceNet | Ordering no. |
| 3 MBits/s                     |      |                           |           |              |

|    |    |   |   |          |
|----|----|---|---|----------|
| -  | ST | - | - | 195N0061 |
| -  | SB | - | - | 195N0062 |
| R1 | ST | - | - | 195N0063 |
| R1 | SB | - | - | 195N0064 |
| -  | ST | ✓ | - | 195N0065 |
| -  | SB | ✓ | - | 195N0066 |
| R1 | ST | ✓ | - | 195N0067 |
| R1 | SB | ✓ | - | 195N0068 |
| -  | ST | - | ✓ | 195N0069 |
| -  | SB | - | ✓ | 195N0070 |
| R1 | ST | - | ✓ | 195N0071 |
| R1 | SB | - | ✓ | 195N0072 |

| 3,7 kW VLT 2840 PD2 1 x 220-240 V / 3 x 200-240 V |      |                                       |           |              |
|---------------------------------------------------|------|---------------------------------------|-----------|--------------|
| RFI                                               | Unit | Profibus DP <sup>1)</sup><br>3 MBit/s | DeviceNet | Ordering no. |
| -                                                 | ST   | -                                     | -         | 178F5170     |
| -                                                 | ST   | ✓                                     | -         | 178F5171     |
| -                                                 | ST   | -                                     | ✓         | 178F5172     |

| 3,7 kW VLT 2840 3 x 200-240 V |      |                                       |           |              |
|-------------------------------|------|---------------------------------------|-----------|--------------|
| RFI                           | Unit | Profibus DP <sup>1)</sup><br>3 MBit/s | DeviceNet | Ordering no. |
| -                             | ST   | -                                     | -         | 195N0073     |
| -                             | SB   | -                                     | -         | 195N0074     |
| R1                            | ST   | -                                     | -         | 195N0075     |
| R1                            | SB   | -                                     | -         | 195N0076     |
| -                             | ST   | ✓                                     | -         | 195N0077     |
| -                             | SB   | ✓                                     | -         | 195N0078     |
| R1                            | ST   | ✓                                     | -         | 195N0079     |
| R1                            | SB   | ✓                                     | -         | 195N0080     |
| -                             | ST   | -                                     | ✓         | 195N0081     |
| -                             | SB   | -                                     | ✓         | 195N0082     |
| R1                            | ST   | -                                     | ✓         | 195N0083     |
| R1                            | SB   | -                                     | ✓         | 195N0084     |

ST: Standard unit.

SB: Standard unit with integral brake.

R1: With RFI filter that complies with EN 55011-1A.



**NB!**

For VLT 2803-2815 with an R1 filter it is only possible to connect single-phase mains voltage 1 x 220 - 240 Volt.

1) Also available in 12 MBit/s version.

## VLT® 2800 Series

### ■ Ordering numbers for VLT 2800 380-480V

| 0,55 kW VLT 2805 3 x 380-480 V |      |                                       |           |              |
|--------------------------------|------|---------------------------------------|-----------|--------------|
| RFI                            | Unit | Profibus DP <sup>1)</sup><br>3 MBit/s | DeviceNet | Ordering no. |
| -                              | ST   | -                                     | -         | 195N1001     |
| -                              | SB   | -                                     | -         | 195N1002     |
| R1                             | ST   | -                                     | -         | 195N1003     |
| R1                             | SB   | -                                     | -         | 195N1004     |
| -                              | ST   | ✓                                     | -         | 195N1005     |
| -                              | SB   | ✓                                     | -         | 195N1006     |
| R1                             | ST   | ✓                                     | -         | 195N1007     |
| R1                             | SB   | ✓                                     | -         | 195N1008     |
| -                              | ST   | -                                     | ✓         | 195N1009     |
| -                              | SB   | -                                     | ✓         | 195N1010     |
| R1                             | ST   | -                                     | ✓         | 195N1011     |
| R1                             | SB   | -                                     | ✓         | 195N1012     |

| 0,75 kW VLT 2807 3 x 380-480 V |      |                                       |           |              |
|--------------------------------|------|---------------------------------------|-----------|--------------|
| RFI                            | Unit | Profibus DP <sup>1)</sup><br>3 MBit/s | DeviceNet | Ordering no. |
| -                              | ST   | -                                     | -         | 195N1013     |
| -                              | SB   | -                                     | -         | 195N1014     |
| R1                             | ST   | -                                     | -         | 195N1015     |
| R1                             | SB   | -                                     | -         | 195N1016     |
| -                              | ST   | ✓                                     | -         | 195N1017     |
| -                              | SB   | ✓                                     | -         | 195N1018     |
| R1                             | ST   | ✓                                     | -         | 195N1019     |
| R1                             | SB   | ✓                                     | -         | 195N1020     |
| -                              | ST   | -                                     | ✓         | 195N1021     |
| -                              | SB   | -                                     | ✓         | 195N1022     |
| R1                             | ST   | -                                     | ✓         | 195N1023     |
| R1                             | SB   | -                                     | ✓         | 195N1024     |

| 1,1 kW VLT 2811 3 x 380-480 V |      |                                       |           |              |
|-------------------------------|------|---------------------------------------|-----------|--------------|
| RFI                           | Unit | Profibus DP <sup>1)</sup><br>3 MBit/s | DeviceNet | Ordering no. |
| -                             | ST   | -                                     | -         | 195N1025     |
| -                             | SB   | -                                     | -         | 195N1026     |
| R1                            | ST   | -                                     | -         | 195N1027     |
| R1                            | SB   | -                                     | -         | 195N1028     |
| -                             | ST   | ✓                                     | -         | 195N1029     |
| -                             | SB   | ✓                                     | -         | 195N1030     |
| R1                            | ST   | ✓                                     | -         | 195N1031     |
| R1                            | SB   | ✓                                     | -         | 195N1032     |
| -                             | ST   | -                                     | ✓         | 195N1033     |
| -                             | SB   | -                                     | ✓         | 195N1034     |
| R1                            | ST   | -                                     | ✓         | 195N1035     |
| R1                            | SB   | -                                     | ✓         | 195N1036     |

| 1,5 kW VLT 2815 3 x 380-480 V |      |                                       |           |              |
|-------------------------------|------|---------------------------------------|-----------|--------------|
| RFI                           | Unit | Profibus DP <sup>1)</sup><br>3 MBit/s | DeviceNet | Ordering no. |
| -                             | ST   | -                                     | -         | 195N1037     |
| -                             | SB   | -                                     | -         | 195N1038     |
| R1                            | ST   | -                                     | -         | 195N1039     |
| R1                            | SB   | -                                     | -         | 195N1040     |
| -                             | ST   | ✓                                     | -         | 195N1041     |
| -                             | SB   | ✓                                     | -         | 195N1042     |
| R1                            | ST   | ✓                                     | -         | 195N1043     |
| R1                            | SB   | ✓                                     | -         | 195N1044     |
| -                             | ST   | -                                     | ✓         | 195N1045     |
| -                             | SB   | -                                     | ✓         | 195N1046     |
| R1                            | ST   | -                                     | ✓         | 195N1047     |
| R1                            | SB   | -                                     | ✓         | 195N1048     |

| 2,2 kW VLT 2822 3 x 380-480 V |      |                                       |           |              |
|-------------------------------|------|---------------------------------------|-----------|--------------|
| RFI                           | Unit | Profibus DP <sup>1)</sup><br>3 MBit/s | DeviceNet | Ordering no. |
| -                             | ST   | -                                     | -         | 195N1049     |
| -                             | SB   | -                                     | -         | 195N1050     |
| R1                            | ST   | -                                     | -         | 195N1051     |
| R1                            | SB   | -                                     | -         | 195N1052     |
| -                             | ST   | ✓                                     | -         | 195N1053     |
| -                             | SB   | ✓                                     | -         | 195N1054     |
| R1                            | ST   | ✓                                     | -         | 195N1055     |
| R1                            | SB   | ✓                                     | -         | 195N1056     |
| -                             | ST   | -                                     | ✓         | 195N1057     |
| -                             | SB   | -                                     | ✓         | 195N1058     |
| R1                            | ST   | -                                     | ✓         | 195N1059     |
| R1                            | SB   | -                                     | ✓         | 195N1060     |

| 3,0 kW VLT 2830 3 x 380-480 V |      |                                       |           |              |
|-------------------------------|------|---------------------------------------|-----------|--------------|
| RFI                           | Unit | Profibus DP <sup>1)</sup><br>3 MBit/s | DeviceNet | Ordering no. |
| -                             | ST   | -                                     | -         | 195N1061     |
| -                             | SB   | -                                     | -         | 195N1062     |
| R1                            | ST   | -                                     | -         | 195N1063     |
| R1                            | SB   | -                                     | -         | 195N1064     |
| -                             | ST   | ✓                                     | -         | 195N1065     |
| -                             | SB   | ✓                                     | -         | 195N1066     |
| R1                            | ST   | ✓                                     | -         | 195N1067     |
| R1                            | SB   | ✓                                     | -         | 195N1068     |
| -                             | ST   | -                                     | ✓         | 195N1069     |
| -                             | SB   | -                                     | ✓         | 195N1070     |
| R1                            | ST   | -                                     | ✓         | 195N1071     |
| R1                            | SB   | -                                     | ✓         | 195N1072     |

| 4,0 kW VLT 2840 3 x 380-480 V |      |                                       |           |              |
|-------------------------------|------|---------------------------------------|-----------|--------------|
| RFI                           | Unit | Profibus DP <sup>1)</sup><br>3 MBit/s | DeviceNet | Ordering no. |
| -                             | ST   | -                                     | -         | 195N1073     |
| -                             | SB   | -                                     | -         | 195N1074     |
| R1                            | ST   | -                                     | -         | 195N1075     |
| R1                            | SB   | -                                     | -         | 195N1076     |
| -                             | ST   | ✓                                     | -         | 195N1077     |
| -                             | SB   | ✓                                     | -         | 195N1078     |
| R1                            | ST   | ✓                                     | -         | 195N1079     |
| R1                            | SB   | ✓                                     | -         | 195N1080     |
| -                             | ST   | -                                     | ✓         | 195N1081     |
| -                             | SB   | -                                     | ✓         | 195N1082     |
| R1                            | ST   | -                                     | ✓         | 195N1083     |
| R1                            | SB   | -                                     | ✓         | 195N1084     |

| 5,5 kW VLT 2855 3 x 380-480 V |      |                                       |           |              |
|-------------------------------|------|---------------------------------------|-----------|--------------|
| RFI                           | Unit | Profibus DP <sup>1)</sup><br>3 MBit/s | DeviceNet | Ordering no. |
| -                             | ST   | -                                     | -         | 195N1085     |
| -                             | SB   | -                                     | -         | 195N1086     |
| R1                            | ST   | -                                     | -         | 195N1087     |
| R1                            | SB   | -                                     | -         | 195N1088     |
| -                             | ST   | ✓                                     | -         | 195N1089     |
| -                             | SB   | ✓                                     | -         | 195N1090     |
| R1                            | ST   | ✓                                     | -         | 195N1091     |
| R1                            | SB   | ✓                                     | -         | 195N1092     |
| -                             | ST   | -                                     | ✓         | 195N1093     |
| -                             | SB   | -                                     | ✓         | 195N1094     |
| R1                            | ST   | -                                     | ✓         | 195N1095     |
| R1                            | SB   | -                                     | ✓         | 195N1096     |

## VLT® 2800 Series

| 7,5 kW VLT 2875 3 x 380-480 V |      |                                       |           |              |
|-------------------------------|------|---------------------------------------|-----------|--------------|
| RFI                           | Unit | Profibus DP <sup>1)</sup><br>3 MBit/s | DeviceNet | Ordering no. |
| -                             | ST   | -                                     | -         | 195N1097     |
| -                             | SB   | -                                     | -         | 195N1098     |
| R1                            | ST   | -                                     | -         | 195N1099     |
| R1                            | SB   | -                                     | -         | 195N1100     |
| -                             | ST   | ✓                                     | -         | 195N1101     |
| -                             | SB   | ✓                                     | -         | 195N1102     |
| R1                            | ST   | ✓                                     | -         | 195N1103     |
| R1                            | SB   | ✓                                     | -         | 195N1104     |
| -                             | ST   | -                                     | ✓         | 195N1105     |
| -                             | SB   | -                                     | ✓         | 195N1106     |
| R1                            | ST   | -                                     | ✓         | 195N1107     |
| R1                            | SB   | -                                     | ✓         | 195N1108     |

| 11 kW VLT 2880 3 x 380-480 V |      |                                       |           |              |
|------------------------------|------|---------------------------------------|-----------|--------------|
| RFI                          | Unit | Profibus DP <sup>1)</sup><br>3 MBit/s | DeviceNet | Ordering no. |
| -                            | ST   | -                                     | -         | 195N1109     |
| -                            | SB   | -                                     | -         | 195N1110     |
| R3                           | ST   | -                                     | -         | 195N1111     |
| R3                           | SB   | -                                     | -         | 195N1112     |
| -                            | ST   | ✓                                     | -         | 195N1113     |
| -                            | SB   | ✓                                     | -         | 195N1114     |
| R3                           | ST   | ✓                                     | -         | 195N1115     |
| R3                           | SB   | ✓                                     | -         | 195N1116     |
| -                            | ST   | -                                     | ✓         | 195N1117     |
| -                            | SB   | -                                     | ✓         | 195N1118     |
| R3                           | ST   | -                                     | ✓         | 195N1119     |
| R3                           | SB   | -                                     | ✓         | 195N1120     |

| 15 kW VLT 2881 3 x 380-480 V |      |                                       |           |              |
|------------------------------|------|---------------------------------------|-----------|--------------|
| RFI                          | Unit | Profibus DP <sup>1)</sup><br>3 MBit/s | DeviceNet | Ordering no. |
| -                            | ST   | -                                     | -         | 195N1121     |
| -                            | SB   | -                                     | -         | 195N1122     |
| R3                           | ST   | -                                     | -         | 195N1123     |
| R3                           | SB   | -                                     | -         | 195N1124     |
| -                            | ST   | ✓                                     | -         | 195N1125     |
| -                            | SB   | ✓                                     | -         | 195N1126     |
| R3                           | ST   | ✓                                     | -         | 195N1127     |
| R3                           | SB   | ✓                                     | -         | 195N1128     |
| -                            | ST   | -                                     | ✓         | 195N1129     |
| -                            | SB   | -                                     | ✓         | 195N1130     |
| R3                           | ST   | -                                     | ✓         | 195N1131     |
| R3                           | SB   | -                                     | ✓         | 195N1132     |

| 18.5 kW VLT 2882 3 x 380-480 V |      |                                       |           |              |
|--------------------------------|------|---------------------------------------|-----------|--------------|
| RFI                            | Unit | Profibus DP <sup>1)</sup><br>3 MBit/s | DeviceNet | Ordering no. |
| -                              | ST   | -                                     | -         | 195N1133     |
| -                              | SB   | -                                     | -         | 195N1134     |
| R3                             | ST   | -                                     | -         | 195N1135     |
| R3                             | SB   | -                                     | -         | 195N1136     |
| -                              | ST   | ✓                                     | -         | 195N1137     |
| -                              | SB   | ✓                                     | -         | 195N1138     |
| R3                             | ST   | ✓                                     | -         | 195N1139     |
| R3                             | SB   | ✓                                     | -         | 195N1140     |
| -                              | ST   | -                                     | ✓         | 195N1141     |
| -                              | SB   | -                                     | ✓         | 195N1142     |
| R3                             | ST   | -                                     | ✓         | 195N1143     |
| R3                             | SB   | -                                     | ✓         | 195N1144     |

ST: Standard unit.

SB: Standard unit with integral brake.

R1: With RFI filter that complies with EN 55011-1A.

R3: With RFI filter that complies with EN 55011-1B.

1) Also available in 12 MBit/s.



## ■ Brake resistors

### Flatpack brake resistors IP 65

| Type         | P <sub>motor</sub><br>[kW] | R <sub>MIN</sub><br>[Ω] | Size [Ω] / [W]<br>per item | Duty cycle % | Order no.<br>175Uxxxx |
|--------------|----------------------------|-------------------------|----------------------------|--------------|-----------------------|
| 2803 (200 V) | 0.37                       | 297                     | 330 Ω / 100 W              | 30           | 1003                  |
| 2805 (200 V) | 0.55                       | 198                     | 220 Ω / 100 W              | 20           | 1004                  |
| 2807 (200 V) | 0.75                       | 135                     | 150 Ω / 100 W              | 14           | 1005                  |
| 2811 (200 V) | 1.10                       | 99                      | 100 Ω / 100 W              | 8            | 1006                  |
| 2815 (200 V) | 1.50                       | 69                      | 72 Ω / 200 W               | 16           | 0992                  |
| 2822 (200 V) | 2.20                       | 43                      | 50 Ω / 200 W               | 9            | 0993                  |
| 2840 (200 V) | 3.70                       | 21                      | 50 Ω / 200 W               | 11           | 2x0993 <sup>1</sup>   |
| 2805 (400 V) | 0.55                       | 747                     | 830 Ω / 100 W              | 20           | 1000                  |
| 2807 (400 V) | 0.75                       | 558                     | 620 Ω / 100 W              | 14           | 1001                  |
| 2811 (400 V) | 1.10                       | 387                     | 430 Ω / 100 W              | 8            | 1002                  |
| 2815 (400 V) | 1.50                       | 297                     | 310 Ω / 200 W              | 16           | 0984                  |
| 2822 (400 V) | 2.20                       | 198                     | 210 Ω / 200 W              | 9            | 0987                  |
| 2830 (400 V) | 3.00                       | 135                     | 150 Ω / 200 W              | 5.5          | 0989                  |
| 2830 (400 V) | 3.00                       | 135                     | 300 Ω / 200 W              | 11           | 2x0985 <sup>1</sup>   |
| 2840 (400 V) | 4.00                       | 99                      | 240 Ω / 200 W              | 11           | 2x0986 <sup>1</sup>   |

<sup>1</sup>These two resistors must be connected in parallel. Order two pieces.

See dimensions of Flatpack brake resistors on the next page.

### Brake resistor for VLT 2803-2882 duty-cycle 40% data and codenumber

| VLT type     | Intermittent<br>braking period<br>time<br>[seconds] | P <sub>motor</sub><br>[kW] | R <sub>min</sub><br>[Ω] | R <sub>rec</sub><br>[Ω] | P <sub>b, max</sub><br>[kW] | Therm. relay<br>[Amp] | Code<br>number<br>175Uxxxx | Cable cross<br>section<br>[mm <sup>2</sup> ] |
|--------------|-----------------------------------------------------|----------------------------|-------------------------|-------------------------|-----------------------------|-----------------------|----------------------------|----------------------------------------------|
| 2803 (200 V) | 120                                                 | 0,37                       | 297                     | 330                     | 0,16                        | 0,7                   | 1900*                      | 1,5**                                        |
| 2805 (200 V) | 120                                                 | 0,55                       | 198                     | 220                     | 0,25                        | 1,1                   | 1901*                      | 1,5**                                        |
| 2807 (200 V) | 120                                                 | 0,75                       | 135                     | 150                     | 0,32                        | 1,5                   | 1902*                      | 1,5**                                        |
| 2811 (200 V) | 120                                                 | 1,1                        | 99                      | 110                     | 0,45                        | 2,0                   | 1975*                      | 1,5**                                        |
| 2815 (200 V) | 120                                                 | 1,5                        | 74                      | 82                      | 0,85                        | 3,2                   | 1903*                      | 1,5**                                        |
| 2822 (200 V) | 120                                                 | 2,2                        | 50                      | 56                      | 1,00                        | 4,2                   | 1904*                      | 1,5**                                        |
| 2840 (200 V) | 120                                                 | 3,7                        | 22                      | 25                      | 3,00                        | 11,0                  | 1925                       | 1,5**                                        |
| 2805 (400 V) | 120                                                 | 0,55                       | 747                     | 830                     | 0,45                        | 0,7                   | 1976*                      | 1,5**                                        |
| 2807 (400 V) | 120                                                 | 0,75                       | 558                     | 620                     | 0,32                        | 0,7                   | 1910*                      | 1,5**                                        |
| 2811 (400 V) | 120                                                 | 1,1                        | 387                     | 430                     | 0,85                        | 1,4                   | 1911*                      | 1,5**                                        |
| 2815 (400 V) | 120                                                 | 1,5                        | 297                     | 330                     | 0,85                        | 1,6                   | 1912*                      | 1,5**                                        |
| 2822 (400 V) | 120                                                 | 2,2                        | 198                     | 220                     | 1,00                        | 2,1                   | 1913*                      | 1,5**                                        |
| 2830 (400 V) | 120                                                 | 3,0                        | 135                     | 150                     | 1,35                        | 3,0                   | 1914*                      | 1,5**                                        |
| 2840 (400 V) | 120                                                 | 4,0                        | 99                      | 110                     | 1,60                        | 3,8                   | 1979*                      | 1,5**                                        |
| 2855 (400 V) | 120                                                 | 5,5                        | 80                      | 80                      | 2,00                        | 5,0                   | 1977*                      | 1,5**                                        |
| 2875 (400 V) | 120                                                 | 7,5                        | 56                      | 56                      | 3,00                        | 6,8                   | 1978*                      | 1,5**                                        |
| 2880 (400 V) | 120                                                 | 11                         | 40                      | 40                      | 5,00                        | 11,2                  | 1997*                      | 1,5**                                        |
| 2881 (400 V) | 120                                                 | 15                         | 30                      | 30                      | 10,0                        | 18,3                  | 1998                       | 2,5**                                        |
| 2882 (400 V) | 120                                                 | 18,5                       | 25                      | 25                      | 13,0                        | 22,8                  | 1999                       | 4**                                          |

\*With KLIXON switch

\*\*Always observe national and local regulations

|                     |                                                                                                                                       |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| P <sub>motor</sub>  | : Rated motor size for VLT type                                                                                                       |
| R <sub>min</sub>    | : Minimum permissible brake resistor                                                                                                  |
| R <sub>rec</sub>    | : Recommended brake resistor (Danfoss)                                                                                                |
| P <sub>b, max</sub> | : Brake resistor rated power as stated by supplier                                                                                    |
| Therm. relay        | : Brake current setting of thermal relay                                                                                              |
| Code number         | : Order numbers for Danfoss brake resistors                                                                                           |
| Cable cross section | : Recommended minimum value based upon PVC insulated copper cable, 30 degree Celsius ambient temperature with normal heat dissipation |

See dimensions of brake resistor for VLT 2803-2882 duty cycle 40% in instruction MI.90.FX.YY.



VLT 28 - P - B20 - S - R - DB - F

**Power Sizes**  
e.g. 2815

**Application range**  
Process

**Mains voltage**

|      |         |
|------|---------|
| 2803 | 0.37 KW |
| 2805 | 0.55 KW |
| 2807 | 0.75 KW |
| 2811 | 1.1 KW  |
| 2815 | 1.5 KW  |
| 2822 | 2.2 KW  |
| 2840 | 3.7 KW  |

1x220-240 V S2<sup>1)</sup>

1x220-240 V D2<sup>2)</sup>

3x200-240 V

3x200-240 V T2

3x380-480 V T4

**Enclosure**  
IP 20

**Hardware variant**

Standard B20

Standard with brake ST SB

**RFI-filter**

Without filter R0

With integral 1A filter (2803-2875) R1

With integral 1B filter (2880-2882) R3

With integral 1A filter For RCD use R4<sup>3)</sup>

With integral 1A filter For IT mains (2805-2840) R5<sup>4)</sup>

**Display unit**

With built-in display unit DB

LCP display unit is an option  
Code no.: 175N0131  
Cable for LCP - Code no.: 175Z0929

**Fieldbus**

Without fieldbus F00

With Profibus DP 3 MBit/s F10

With Profibus DP 12 MBit/s F12

With DeviceNet F30

No. unit of this type

Required delivery date

Ordered by:

Date:

Please take a copy of the ordering form.  
Fill it in and send or fax your order  
to the nearest Danfoss rep. office.

1) S2 = Unit can only be ordered with RFI filter  
2) D2 = Unit cannot be ordered with RFI filter  
3) = Unit can only be ordered with S2  
4) = Unit can only be ordered with T4  
5) = Only available in 2822PD2 STRO version  
6) = Only available in 2840PD2 STRO version

195NA026.22

■ **PC Software tools**

**PC Software - MCT 10**

All drives are equipped with a serial communication port. We provide a PC tool for communication between PC and frequency converter, VLT Motion Control Tool MCT 10 Set-up Software.

**MCT 10 Set-up Software**

MCT 10 has been designed as an easy to use interactive tool for setting parameters in our frequency converters.

The MCT 10 Set-up Software will be useful for:

- Planning a communication network off-line. MCT 10 contains a complete frequency converter database
- Commissioning frequency converters on line
- Saving settings for all frequency converters
- Replacing a drive in a network
- Expanding an existing network

- Future developed drives will be supported

MCT 10 Set-up Software support Profibus DP-V1 via a Master class 2 connection. It makes it possible to on line read/write parameters in a frequency converter via the Profibus network. This will eliminate the need for an extra communication network.

**The MCT 10 Set-up Software Modules**

The following modules are included in the software package:



**MCT 10 Set-up Software**

Setting parameters  
Copy to and from frequency converters  
Documentation and print out of parameter settings incl. diagrams

**SyncPos**

Creating SyncPos programme

**Ordering number:**

Please order your CD containing MCT 10 Set-up Software using code number 130B1000.

**MCT 31**

The MCT 31 harmonic calculation PC tool enables easy estimation of the harmonic distortion in a given application. Both the harmonic distortion of Danfoss frequency converters as well as non-Danfoss frequency converters with different additional harmonic reduc-

tion measurements, such as Danfoss AHF filters and 12-18-pulse rectifiers, can be calculated.

**Ordering number:**

Please order your CD containing the MCT 31 PC tool using code number 130B1031.

■ Mechanical dimensions

The drawings below describe the mechanical dimensions. All dimensions are in mm.

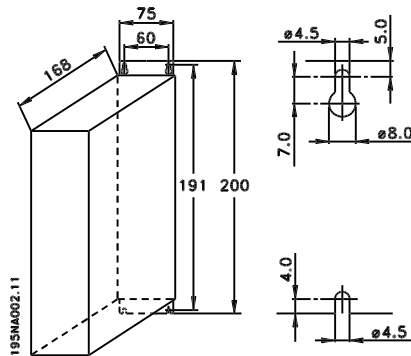


**NB!**

Please note that all filter options must be vertically mounted.

VLT 2803-2815 200-240 Volt

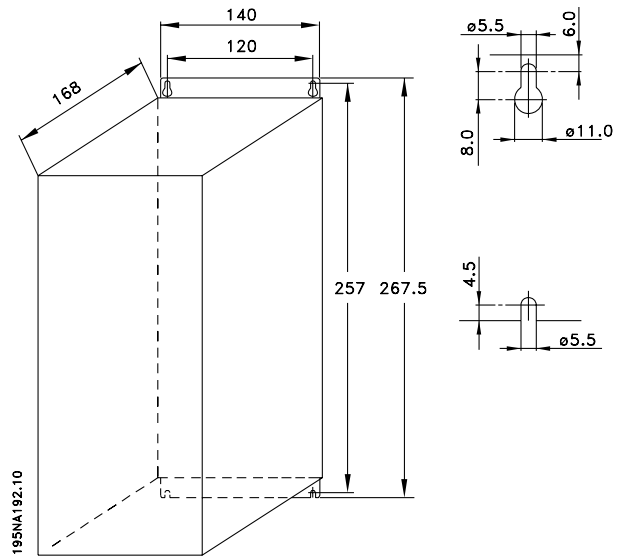
VLT 2805-2815 380-480 Volt



VLT 2822 220 - 240 V, PD2

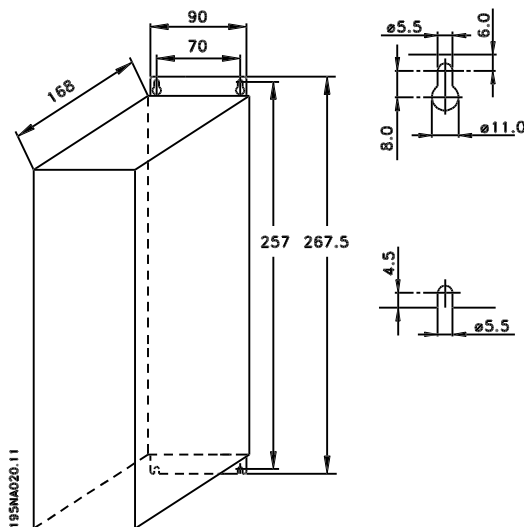
VLT 2840 200-240 Volt

VLT 2855-2875 380-480 Volt



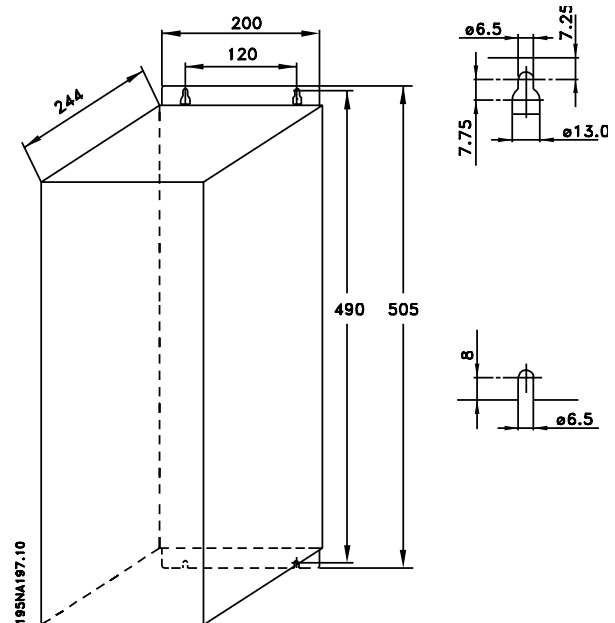
VLT 2822 200-240 Volt

VLT 2822-2840 380-480 Volt

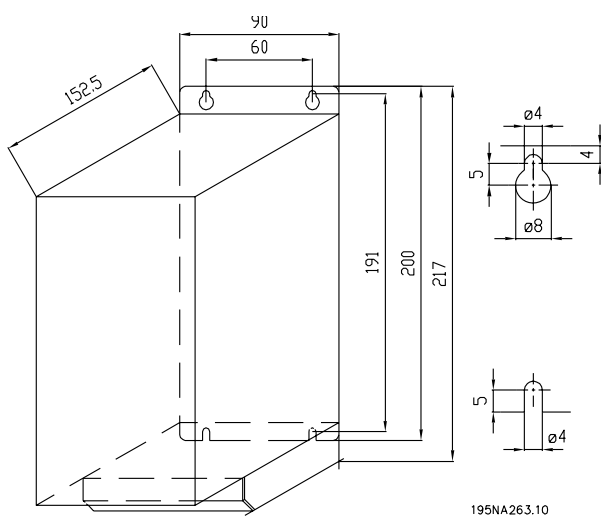


VLT 2840 220-240 V, PD2

VLT 2880-82 380-480V

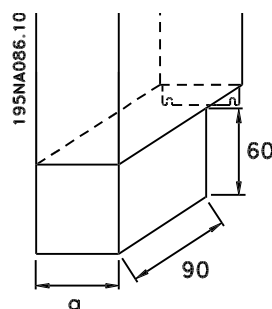


■ Motor coils (195N3110)

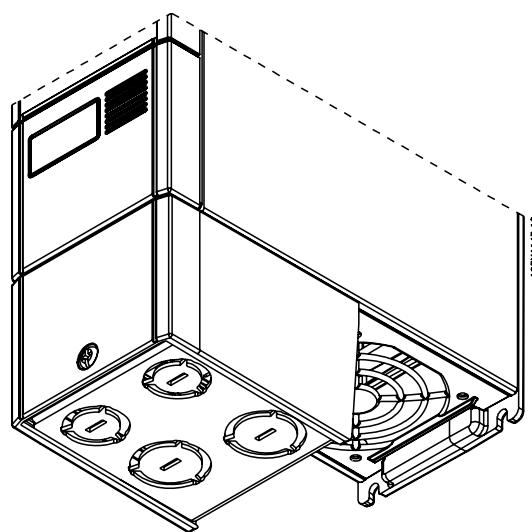
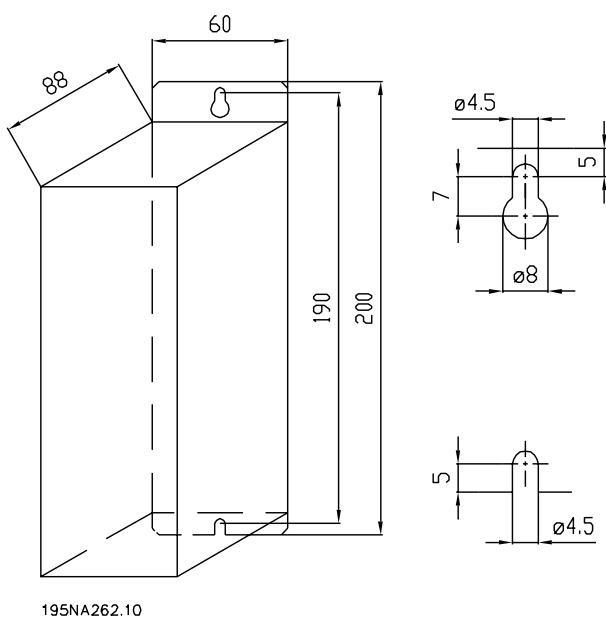


■ Terminal cover

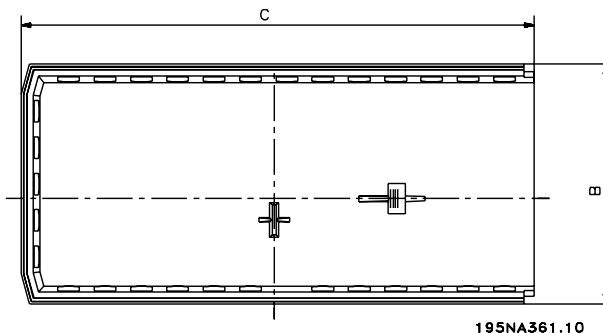
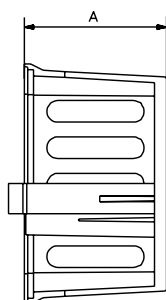
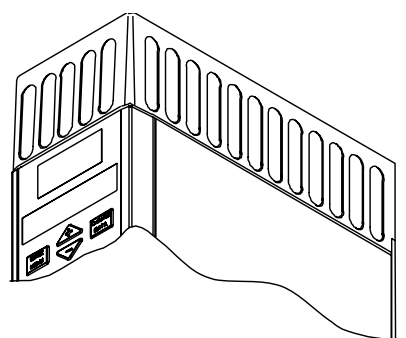
The drawing below gives the dimensions for NEMA 1 terminal covers for VLT 2803-2875. Dimension 'a' depends on the unit type.



■ RFI 1B filter (195N3103)



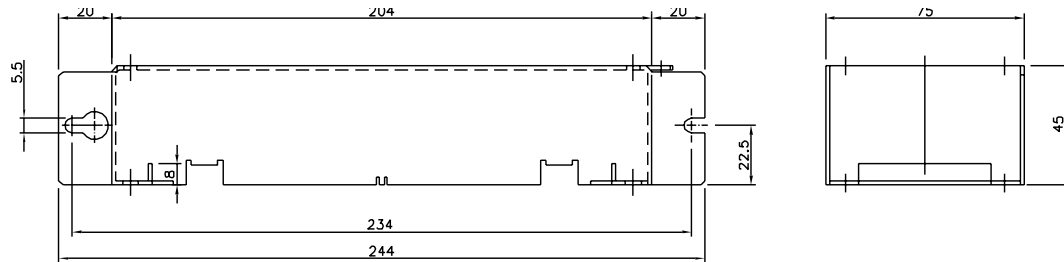
■ IP 21 solution



Dimensions

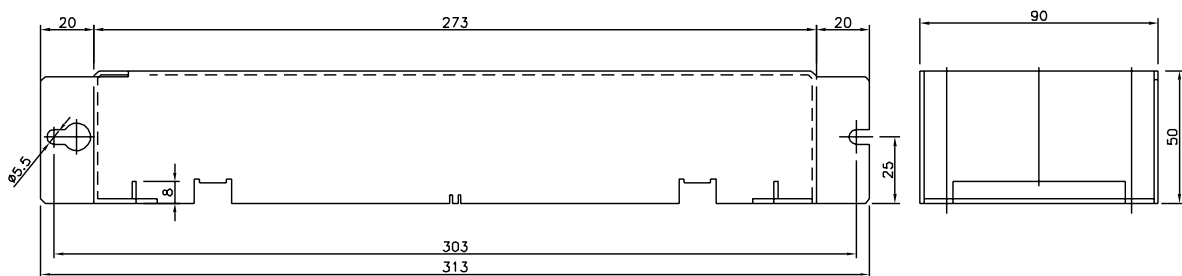
| Type                                                      | Code number | A  | B   | C   |
|-----------------------------------------------------------|-------------|----|-----|-----|
| VLT 2803-2815 200-240 V, VLT 2805-2815 380-480 V          | 195N2118    | 47 | 80  | 170 |
| VLT 2822 200-240 V, VLT 2822-2840 380-480 V               | 195N2119    | 47 | 95  | 170 |
| VLT 2840 200-240 V, VLT 2822 PD2, TR1 2855-2875 380-480 V | 195N2120    | 47 | 145 | 170 |
| TR1 2880-2882 380-480 V, VLT 2840 PD2                     | 195N2126    | 47 | 205 | 245 |

■ EMC filter for long motor cables



195NA360.10

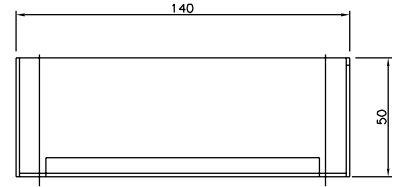
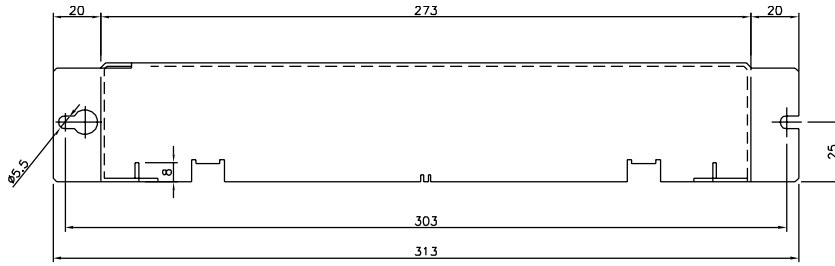
192H4719



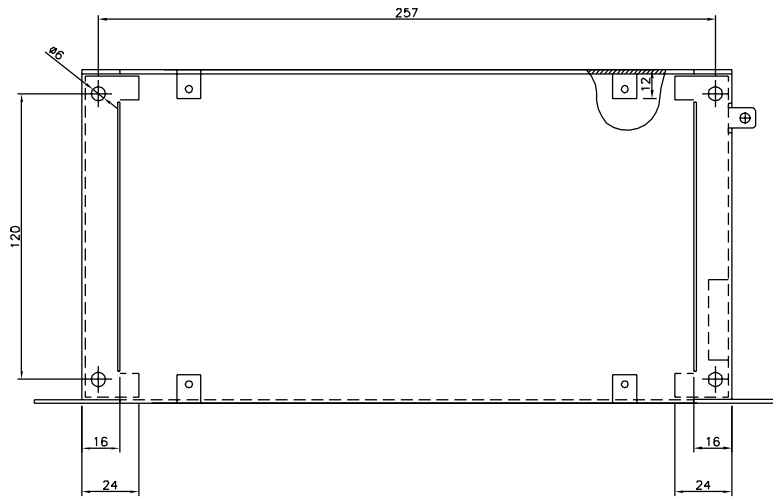
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192H4720



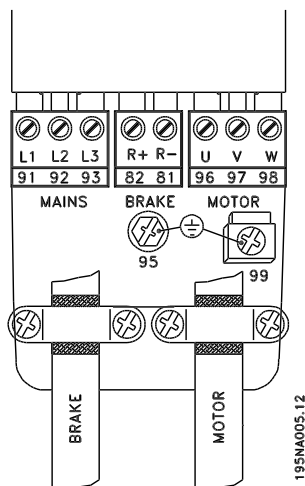


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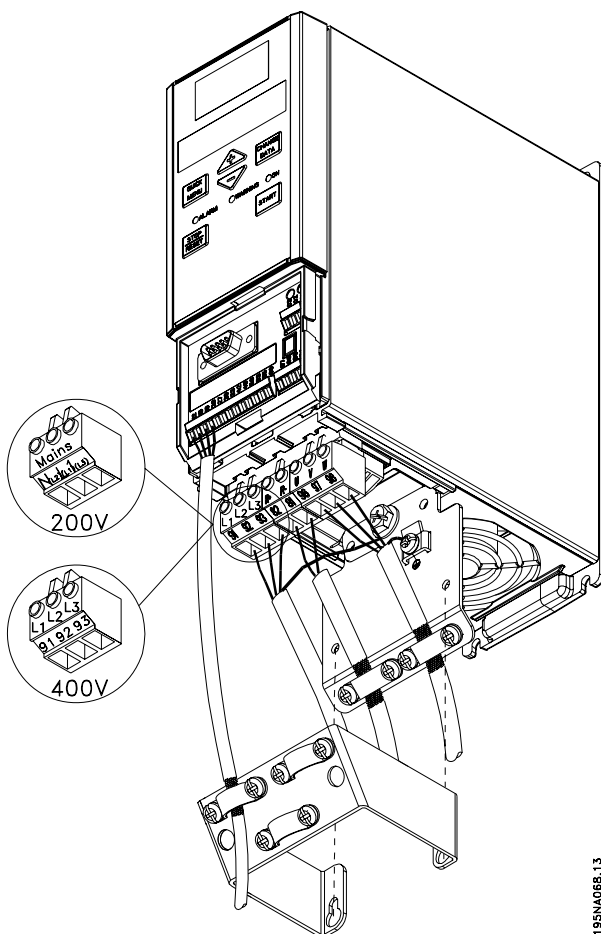


192H4893

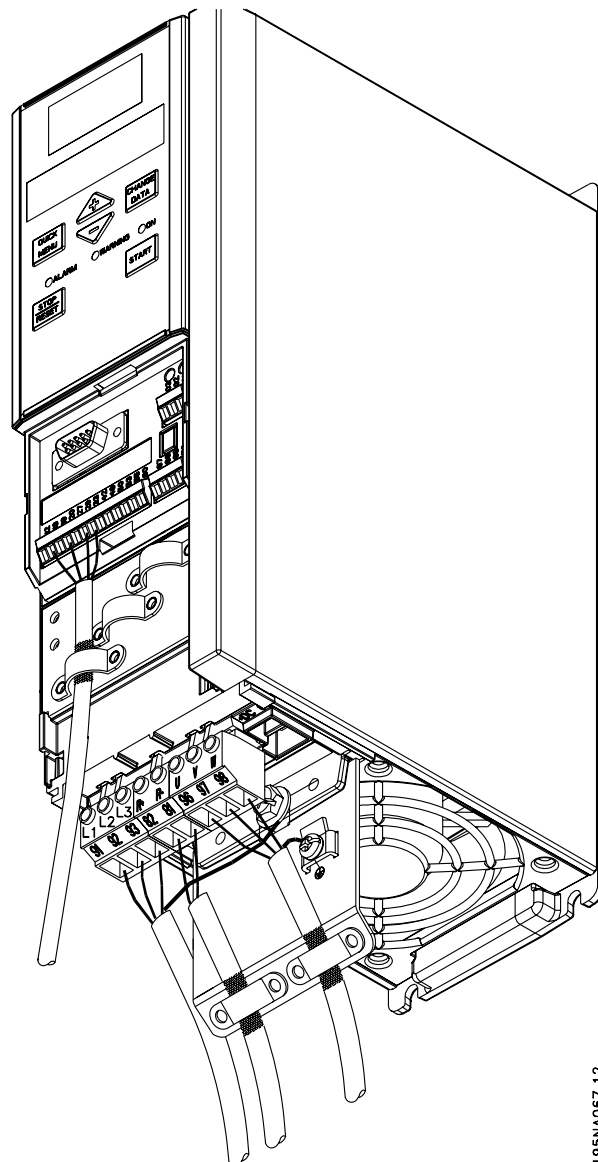
■ Electrical installation



195NA005.12



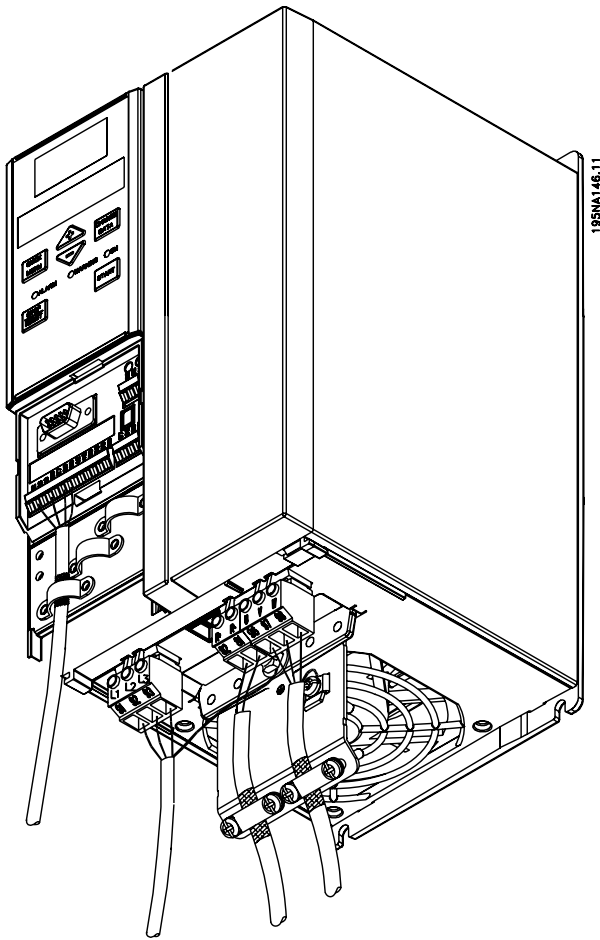
195NA068.13



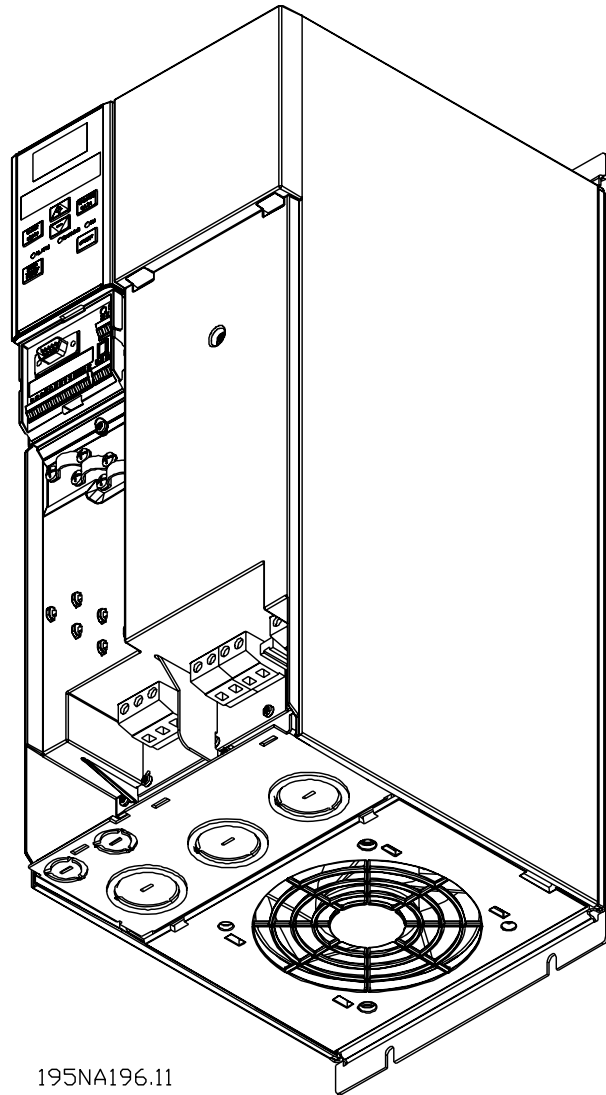
195NA067.12

VLT 2822 200-240 V, 2822-2840 380-480 V

VLT 2803-2815 200-240 V, 2805-2815 380-480 V

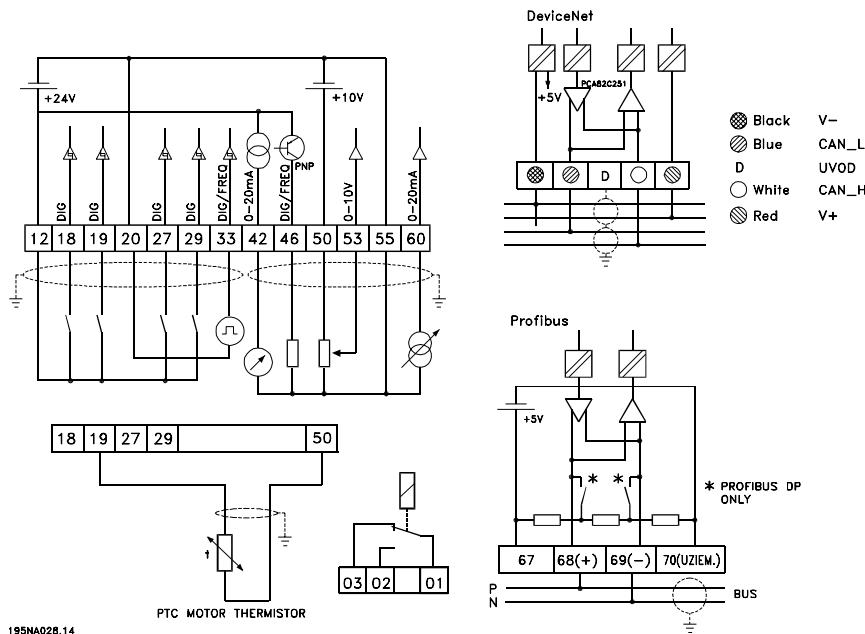


VLT 2840 200-240 V, VLT 2822 PD2, 2855-2875  
380-480 V



VLT 2880-2882 380-480 V, VLT 2840 PD2

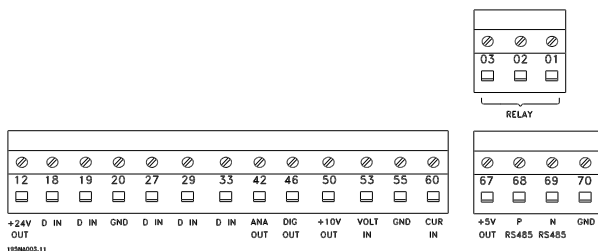
Please note that the units will be supplied with two bottom plates; one for metric glands and one for conduits.



### ■ Electrical installation, control terminals

See section entitled *Earthing of screened/armoured control cables* in the VLT 2800 Design Guide for the correct termination of control cables.

1. The terminals are not valid for DeviceNet/CANopen. See also the DeviceNet manual, MG.90.BX.YY for further details.



| No.                 | Function                                                                               |
|---------------------|----------------------------------------------------------------------------------------|
| 01-03               | Relay outputs 01-03 can be used for indicating status and alarms/warnings.             |
| 12                  | 24 V DC voltage supply.                                                                |
| 18-33               | Digital inputs.                                                                        |
| 20, 55              | Common frame for input and output terminals.                                           |
| 42                  | Analog output for displaying frequency, reference, current or torque.                  |
| 46 <sub>1</sub>     | Digital output for displaying status, warnings or alarms, as well as frequency output. |
| 50                  | +10 V DC supply voltage for potentiometer or thermistor.                               |
| 53                  | Analogue voltage input 0 - 10 V DC.                                                    |
| 60                  | Analogue current input 0/4 - 20 mA.                                                    |
| 67 <sub>1</sub>     | + 5 V DC supply voltage to Profibus.                                                   |
| 68, 69 <sub>1</sub> | RS 485, Serial communication.                                                          |
| 70 <sub>1</sub>     | Frame for terminals 67, 68 and 69. Normally this terminal is not to be used.           |

**■ General technical data**

Mains supply (L1, L2, L3):

|                                                  |                                      |
|--------------------------------------------------|--------------------------------------|
| Supply voltage VLT 2803-2840 220-240 V (N, L1)   | 1 x 220/230/240 V $\pm 10\%$         |
| Supply voltage VLT 2803-2840 200-240 V           | 3 x 200/208/220/230/240 V $\pm 10\%$ |
| Supply voltage VLT 2805-2882 380-480 V           | 3 x 380/400/415/440/480 V $\pm 10\%$ |
| Supply voltage VLT 2805-2840 (R5)                | 380 / 400 V + 10 %                   |
| Supply frequency                                 | 50/60 Hz $\pm 3$ Hz                  |
| Max. imbalance on supply voltage                 | $\pm 2.0\%$ of rated supply voltage  |
| True Power Factor ( $\lambda$ )                  | 0.90 nominal at rated load           |
| Displacement Power Factor ( $\cos \phi$ )        | near unity ( $> 0.98$ )              |
| Number of connections at supply input L1, L2, L3 | 2 times/min.                         |
| Max. short-circuit value                         | 100,000 A                            |

See Special Conditions section in the Design Guide

Output data (U, V, W):

|                                      |                            |
|--------------------------------------|----------------------------|
| Output voltage                       | 0 - 100% of supply voltage |
| Output frequency                     | 0.2 - 132 Hz, 1 - 1000 Hz  |
| Rated motor voltage, 200-240 V units | 200/208/220/230/240 V      |
| Rated motor voltage, 380-480 V units | 380/400/415/440/460/480 V  |
| Rated motor frequency                | 50/60 Hz                   |
| Switching on output                  | Unlimited                  |
| Ramp times                           | 0.02 - 3600 sec.           |

Torque characteristics:

|                                                                          |                   |
|--------------------------------------------------------------------------|-------------------|
| Starting torque (parameter 101 Torque characteristic = Constant torque)  | 160% in 1 min.*   |
| Starting torque (parameter 101 Torque characteristics = Variable torque) | 160% in 1 min.*   |
| Starting torque (parameter 119 High starting torque )                    | 180% for 0.5 sec. |
| Overload torque (parameter 101 Torque characteristic = Constant torque)  | 160%*             |
| Overload torque (parameter 101 Torque characteristic = Variable torque)  | 160%*             |

Percentage relates to frequency converter's nominal current.

\* VLT 2822 PD2 / 2840 PD2 1 x 220 V only 110% in 1 min.

Control card, digital inputs:

|                                                    |                                  |
|----------------------------------------------------|----------------------------------|
| Number of programmable digital inputs              | 5                                |
| Terminal number                                    | 18, 19, 27, 29, 33               |
| Voltage level                                      | 0 - 24 V DC (PNP positive logic) |
| Voltage level, logic '0'                           | $< 5$ V DC                       |
| Voltage level, logic '1'                           | $> 10$ V DC                      |
| Maximum voltage on input                           | 28 V DC                          |
| Input resistance, $R_i$ (terminals 18, 19, 27, 29) | approx. 4 k $\Omega$             |
| Input resistance, $R_i$ (terminal 33)              | approx. 2 k $\Omega$             |

All digital inputs are galvanically isolated from the supply voltage (PELV) and other high-voltage terminals. See section entitled Galvanic Isolation.

## VLT® 2800 Series

### Control card, analog inputs:

|                                 |                             |
|---------------------------------|-----------------------------|
| Number of analog voltage inputs | 1 pcs.                      |
| Terminal number                 | 53                          |
| Voltage level                   | 0 - 10 V DC (scaleable)     |
| Input resistance, $R_i$         | approx. 10 k $\Omega$       |
| Max. voltage                    | 20 V                        |
| Number of analog current inputs | 1 pcs.                      |
| Terminal number                 | 60                          |
| Current level                   | 0/4 - 20 mA (scaleable)     |
| Input resistance, $R_i$         | approx. 300 $\Omega$        |
| Max. current                    | 30 mA                       |
| Resolution for analog inputs    | 10 bit                      |
| Accuracy of analog inputs       | Max. error 1% of full scale |
| Scan interval                   | 13.3 msec                   |

The analog inputs are galvanically isolated from the supply voltage (PELV) and other high-voltage terminals. See section entitled Galvanic Isolation.

### Control card, pulse inputs:

|                                         |                                  |
|-----------------------------------------|----------------------------------|
| Number of programmable pulse inputs     | 1                                |
| Terminal number                         | 33                               |
| Max. frequency at terminal 33           | 67.6 kHz (Push-pull)             |
| Max. frequency at terminal 33           | 5 kHz (open collector)           |
| Min. frequency at terminal 33           | 4 Hz                             |
| Voltage level                           | 0 - 24 V DC (PNP positive logic) |
| Voltage level, logic '0'                | < 5 V DC                         |
| Voltage level, logic '1'                | > 10 V DC                        |
| Maximum voltage on input                | 28 V DC                          |
| Input resistance, $R_i$                 | approx. 2 k $\Omega$             |
| Scan interval                           | 13.3 msec                        |
| Resolution                              | 10 bit                           |
| Accuracy (100 Hz- 1 kHz) terminal 33    | Max. error: 0.5% of full scale   |
| Accuracy (1 kHz - 67.6 kHz) terminal 33 | Max. error: 0.1% of full scale   |

The pulse input (terminal 33) is galvanically isolated from the supply voltage (PELV) and other high-voltage terminals. See section entitled Galvanic Isolation.

### Control card, digital/frequency output:

|                                                 |                                 |
|-------------------------------------------------|---------------------------------|
| Number of programmable digital/pulse outputs    | 1 pcs.                          |
| Terminal number                                 | 46                              |
| Voltage level at digital/frequency output       | 0 - 24 V DC (O.C PNP)           |
| Max. output current at digital/frequency output | 25 mA.                          |
| Max. load at digital/frequency output           | 1 k $\Omega$                    |
| Max. capacity at frequency output               | 10 nF                           |
| Minimum output frequency at frequency output    | 16 Hz                           |
| Maximum output frequency at frequency output    | 10 kHz                          |
| Accuracy on frequency output                    | Max. error: 0.2 % of full scale |
| Resolution on frequency output                  | 10 bit                          |

The digital output is galvanically isolated from the supply voltage (PELV) and other high-voltage terminals. See section entitled Galvanic Isolation.

**Control card, analog output:**

|                                       |                                 |
|---------------------------------------|---------------------------------|
| Number of programmable analog outputs | 1                               |
| Terminal number                       | 42                              |
| Current range at analog output        | 0/4 - 20 mA                     |
| Max. load to common at analog output  | 500 $\Omega$                    |
| Accuracy on analog output             | Max. error: 1.5 % of full scale |
| Resolution on analog output           | 10 bit                          |

*The analog output is galvanically isolated from the supply voltage (PELV) and other high-voltage terminals. See section entitled Galvanic Isolation.*

**Control card, 24 V DC output:**

|                 |        |
|-----------------|--------|
| Terminal number | 12     |
| Max. load       | 130 mA |

*The 24 V DC supply is galvanically isolated from the supply voltage (PELV) , but has the same potential as the analogue and digital inputs and outputs. See section entitled Galvanic Isolation.*

**Control card, 10 V DC output:**

|                 |                    |
|-----------------|--------------------|
| Terminal number | 50                 |
| Output voltage  | 10.5 V $\pm$ 0.5 V |
| Max. load       | 15 mA              |

*The 10 V DC supply is galvanically isolated from the supply voltage (PELV) and other high-voltage terminals. See section entitled Galvanic Isolation.*

**Control card, RS 485 serial communication:**

|                    |                                    |
|--------------------|------------------------------------|
| Terminal number    | 68 (TX+, RX+), 69 (TX-, RX-)       |
| Terminal number 67 | + 5 V                              |
| Terminal number 70 | Common for terminals 67, 68 and 69 |

*Full galvanic isolation. See section entitled Galvanic Isolation.*

*For CANopen/DeviceNet units, see VLT 2800 DeviceNet manual, MG.90.BX.YY.*

**Relay outputs:<sup>1)</sup>**

|                                                              |                                |
|--------------------------------------------------------------|--------------------------------|
| Number of programmable relay outputs                         | 1                              |
| Terminal number, control card (resistive and inductive load) | 1-3 (break), 1-2 (make)        |
| Max. terminal load (AC1) on 1-3, 1-2, control card           | 250 V AC, 2 A, 500 VA          |
| Max. terminal load (DC1 (IEC 947)) on 1-3, 1-2, control card | 25 V DC, 2 A /50 V DC, 1A, 50W |
| Min. terminal load (AC/DC) on 1-3, 1-2, control card         | 24 V DC 10 mA, 24 V AC 100 mA  |

*The relay contact is separated from the rest of the circuit by strengthened isolation.*

Note: Rated values resistive load - cosphi >0.8 for up to 300,000 operations.  
Inductive loads at cosphi 0.25 approximately 50% load or 50% life time.

**Cable lengths and cross sections:**

|                                                                       |              |
|-----------------------------------------------------------------------|--------------|
| Max. motor cable length, screened/armoured cable                      | 40 m         |
| Max. motor cable length, unscreened/unarmoured cable                  | 75 m         |
| Max. motor cable length, screened/armoured cable and motor coil       | 100 m        |
| Max. motor cable length, unscreened/unarmoured cable and motor coil   | 200 m        |
| Max. motor cable length, screened/armoured cable and RFI/1B filter    | 200 V, 100 m |
| Max. motor cable length, screened/armoured cable and RFI/1B filter    | 400 V, 25 m  |
| Max. motor cable length, screened/armoured cable and RFI 1B/LC filter | 400 V, 25 m  |

*Max. cross section to motor, see next section.*

|                                                                |                                                         |
|----------------------------------------------------------------|---------------------------------------------------------|
| Max. cross section to control wires, rigid wire                | 1.5 mm <sup>2</sup> /16 AWG (2 x 0.75 mm <sup>2</sup> ) |
| Max. cross section to control cables, flexible cable           | 1 mm <sup>2</sup> /18 AWG                               |
| Max. cross section to control cables, cable with enclosed core | 0.5 mm <sup>2</sup> /20 AWG                             |

**When complying with EN 55011 1A and EN 55011 1B the motor cable must in certain instances be reduced.  
See EMC emission.**

**Control characteristics:**

|                                                                 |                                       |
|-----------------------------------------------------------------|---------------------------------------|
| Frequency range                                                 | 0.2 - 132 Hz, 1 - 1000 Hz             |
| Resolution of output frequency                                  | 0.013 Hz, 0.2 - 1000 Hz               |
| Repeat accuracy of <i>Precise start/stop</i> (terminals 18, 19) | ± 0.5 msec                            |
| System response time (terminals 18, 19, 27, 29, 33)             | 26.6 msec                             |
| Speed control range (open loop)                                 | 1:10 of synchronous speed             |
| Speed control range (closed loop)                               | 1:120 of synchronous speed            |
| Speed accuracy (open loop)                                      | 150 - 3600 rpm: Max. error of ±23 rpm |
| Speed accuracy (closed loop)                                    | 30 - 3600 rpm: Max. error of ±7.5 rpm |

*All control characteristics are based on a 4-pole asynchronous motor*

**Surroundings:**

|                        |                                         |
|------------------------|-----------------------------------------|
| Enclosure              | IP 20                                   |
| Enclosure with options | NEMA 1                                  |
| Vibration test         | 0.7 g                                   |
| Max. relative humidity | 5% - 93% during operation               |
| Ambient temperature    | Max. 45 °C (24-hour average max. 40 °C) |

*Derating for high ambient temperature, see special conditions in the Design Guide*

|                                                      |                 |
|------------------------------------------------------|-----------------|
| Min. ambient temperature during full-scale operation | 0 °C            |
| Min. ambient temperature at reduced performance      | - 10 °C         |
| Temperature during storage/transport                 | -25 - +65/70 °C |
| Max. altitude above sea level                        | 1000 m          |

*Derating for high air pressure, see special conditions in the Design Guide*

|                         |                                                                                                                                       |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| EMC standards, Emission | EN 61081-2, EN 61800-3, EN 55011<br>EN 50082-1/2, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN<br>61000-4-6, EN 61800-3 |
| EMC standards, Immunity |                                                                                                                                       |

*See section on special conditions in the Design Guide*



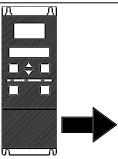
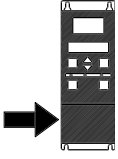
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**Safeguards:**

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- Electronic thermal motor protection against overload.
- Temperature monitoring of the power module ensures that the frequency converter cuts out if the temperature reaches 100 °C. An overload temperature cannot be reset until the temperature of the power module is below 70 °C.
- The frequency converter is protected against short-circuits on motor terminals U, V, W.
- If a mains phase is missing, the frequency converter will cut out.
- Monitoring of the intermediate circuit voltage ensures that the frequency converter cuts out if the intermediate circuit voltage is too low or too high.
- The frequency converter is protected against earth fault on motor terminals U, V, W.

■ Technical data, mains supply 1 x 220 - 240 V/3 x 200-240V

| According to . international standards                                            |                                 | Type                                 | 2803  | 2805  | 2807  | 2811  | 2815  | 2822  | 2822 PD2 | 2840  | 2840 PD2         |
|-----------------------------------------------------------------------------------|---------------------------------|--------------------------------------|-------|-------|-------|-------|-------|-------|----------|-------|------------------|
|  | Output current (3 x 200-240V)   | I <sub>INV.</sub> [A]                | 2.2   | 3.2   | 4.2   | 6.0   | 6.8   | 9.6   | 9.6      | 16    | 16               |
|                                                                                   |                                 | I <sub>MAX</sub> (60s) [A]           | 3.5   | 5.1   | 6.7   | 9.6   | 10.8  | 15.3  | 10.6     | 25.6  | 17.6             |
|                                                                                   | Output power (230 V)            | S <sub>INV.</sub> [KVA]              | 0.9   | 1.3   | 1.7   | 2.4   | 2.7   | 3.8   | 3.8      | 6.4   | 6.4              |
|                                                                                   | Typical shaft output            | P <sub>M,N</sub> [kW]                | 0.37  | 0.55  | 0.75  | 1.1   | 1.5   | 2.2   | 2.2      | 3.7   | 3.7              |
|                                                                                   | Typical shaft output            | P <sub>M,N</sub> [HP]                | 0.5   | 0.75  | 1.0   | 1.5   | 2.0   | 3.0   | 3.0      | 5.0   | 5.0              |
| Max. cable cross section, motor                                                   |                                 | [mm <sup>2</sup> /AWG] <sup>1)</sup> | 4/10  | 4/10  | 4/10  | 4/10  | 4/10  | 4/10  | 4/10     | 4/10  | 16/6             |
|  | Input current (1 x 220-240 V)   | I <sub>L,N</sub> [A]                 | 5.9   | 8.3   | 10.6  | 14.5  | 15.2  | -     | 22.0     | -     | 31.0             |
|                                                                                   |                                 | I <sub>L,MAX</sub> (60s) [A]         | 9.4   | 13.3  | 16.7  | 23.2  | 24.3  | -     | 24.3     | -     | 34.5             |
|                                                                                   | Input current (3 x 200-240 V)   | I <sub>L,N</sub> [A]                 | 2.9   | 4.0   | 5.1   | 7.0   | 7.6   | 8.8   | 8.8      | 14.7  | 14.7             |
|                                                                                   |                                 | I <sub>L,MAX</sub> (60s) [A]         | 4.6   | 6.4   | 8.2   | 11.2  | 12.2  | 14.1  | 9.7      | 23.5  | 16.2             |
|                                                                                   | Max. cable cross section, power | [mm <sup>2</sup> /AWG] <sup>1)</sup> | 4/10  | 4/10  | 4/10  | 4/10  | 4/10  | 4/10  | 4/10     | 4/10  | 16/6             |
|                                                                                   | Max. pre-fuses                  | IEC/UL <sup>2)</sup> [A]             | 20/20 | 20/20 | 20/20 | 20/20 | 20/20 | 20/20 | 35/35    | 25/25 | 50/50            |
|                                                                                   | Efficiency <sup>3)</sup>        | [%]                                  | 95    | 95    | 95    | 95    | 95    | 95    | 95       | 95    | 95               |
|                                                                                   | Power loss at 100% load         | [W]                                  | 24    | 35    | 48    | 69    | 94    | 125   | 125      | 231   | 231              |
|                                                                                   | Weight                          | [kg]                                 | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 3,7   | 6.0      | 6.0   | 18.50            |
|                                                                                   | Enclosure <sup>4)</sup>         | type                                 | IP 20 | IP 20 | IP 20 | IP 20 | IP 20 | IP 20 | IP 20    | IP 20 | IP 20/<br>NEMA 1 |

1. American Wire Gauge. Max. cable cross section is the largest cable cross section that can be attached to the terminals. Always observe national and local regulations.

2. Type gG pre-fuses must be used for installation according to IEC rules. If you want to maintain UL/cUL you must use pre-fuses of the type Bussmann KTN-R 200 V, KTS-R 500 V or Ferraz Shawmut, type ATMR (max. 30A). The fuses must be placed for protection in a circuit that is capable of supplying a maximum of 100,000 amps RMS (symmetrical), 500 V maximum.

3. Measured using a 25 m screened/armoured motor cable with a rated load and rated frequency.

4. IP20 is standard for VLT 2805-2875, whereas NEMA 1 is an option.

■ Technical data, mains supply 3 x 380 - 480 V

| According to international standards                                               |                                 | Type                                 | 2805  | 2807  | 2811  | 2815            | 2822            | 2830            |
|------------------------------------------------------------------------------------|---------------------------------|--------------------------------------|-------|-------|-------|-----------------|-----------------|-----------------|
|   | Output current (3 x 380-480V)   | I <sub>INV</sub> [A]                 | 1.7   | 2.1   | 3.0   | 3.7             | 5.2             | 7.0             |
|                                                                                    |                                 | I <sub>MAX</sub> (60s) [A]           | 2.7   | 3.3   | 4.8   | 5.9             | 8.3             | 11.2            |
|                                                                                    | Output power (400 V)            | S <sub>INV</sub> [KVA]               | 1.1   | 1.7   | 2.0   | 2.6             | 3.6             | 4.8             |
|                                                                                    | Typical shaft output            | P <sub>M,N</sub> [kW]                | 0.55  | 0.75  | 1.1   | 1.5             | 2.2             | 3.0             |
|                                                                                    | Typical shaft output            | P <sub>M,N</sub> [HP]                | 0.75  | 1.0   | 1.5   | 2.0             | 3.0             | 4.0             |
|                                                                                    | Max. cable cross section, motor | [mm <sup>2</sup> /AWG] <sup>1)</sup> | 4/10  | 4/10  | 4/10  | 4/10            | 4/10            | 4/10            |
|                                                                                    |                                 |                                      |       |       |       |                 |                 |                 |
|   | Input current (3 x 380-480 V)   | I <sub>L,N</sub> [A]                 | 1.6   | 1.9   | 2.6   | 3.2             | 4.7             | 6.1             |
|                                                                                    |                                 | I <sub>L,MAX</sub> (60s)[A]          | 2.6   | 3.0   | 4.2   | 5.1             | 7.5             | 9.8             |
|                                                                                    | Max. cable cross section, power | [mm <sup>2</sup> /AWG] <sup>1)</sup> | 4/10  | 4/10  | 4/10  | 4/10            | 4/10            | 4/10            |
|                                                                                    | Max. pre-fuses                  | IEC/UL <sup>2)</sup> [A]             | 20/20 | 20/20 | 20/20 | 20/20           | 20/20           | 20/20           |
|                                                                                    | Efficiency <sup>3)</sup>        | [%]                                  | 96    | 96    | 96    | 96              | 96              | 96              |
|                                                                                    | Power loss at 100% load         | [W]                                  | 28    | 38    | 55    | 75              | 110             | 150             |
|                                                                                    | Weight                          | [kg]                                 | 2.1   | 2.1   | 2.1   | 2.1             | 3.7             | 3.7             |
|                                                                                    | Enclosure <sup>4)</sup>         | type                                 | IP 20 | IP 20 | IP 20 | IP 20           | IP 20           | IP 20           |
|                                                                                    |                                 |                                      |       |       |       |                 |                 |                 |
| According to international standards                                               |                                 | Type                                 | 2840  | 2855  | 2875  | 2880            | 2881            | 2882            |
|   | Output current (3 x 380-480V)   | I <sub>INV</sub> [A]                 | 9.1   | 12    | 16    | 24              | 32.0            | 37.5            |
|                                                                                    |                                 | I <sub>MAX</sub> (60s) [A]           | 14.5  | 19.2  | 25.6  | 38.4            | 51.2            | 60.0            |
|                                                                                    | Output power (400 V)            | S <sub>INV</sub> [KVA]               | 6.3   | 8.3   | 11.1  | 16.6            | 22.2            | 26.0            |
|                                                                                    | Typical shaft output            | P <sub>M,N</sub> [kW]                | 4.0   | 5.5   | 7.5   | 11.0            | 15.0            | 18.5            |
|                                                                                    | Typical shaft output            | P <sub>M,N</sub> [HP]                | 5.0   | 7.5   | 10.0  | 15.0            | 20.0            | 25.0            |
|                                                                                    | Max. cable cross section, motor | [mm <sup>2</sup> /AWG] <sup>1)</sup> | 4/10  | 4/10  | 4/10  | 16/6            | 16/6            | 16/6            |
|                                                                                    |                                 |                                      |       |       |       |                 |                 |                 |
|  | Input current (3 x 380-480 V)   | I <sub>L,N</sub> [A]                 | 8.1   | 10.6  | 14.9  | 24.0            | 32.0            | 37.5            |
|                                                                                    |                                 | I <sub>L,MAX</sub> (60s)[A]          | 13.0  | 17.0  | 23.8  | 38.4            | 51.2            | 60              |
|                                                                                    | Max. cable cross section, power | [mm <sup>2</sup> /AWG] <sup>1)</sup> | 4/10  | 4/10  | 4/10  | 16/6            | 16/6            | 16/6            |
|                                                                                    | Max. pre-fuses                  | IEC/UL <sup>2)</sup> [A]             | 20/20 | 25/25 | 25/25 | 50/50           | 50/50           | 50/50           |
|                                                                                    | Efficiency <sup>3)</sup>        | [%]                                  | 96    | 96    | 96    | 97              | 97              | 97              |
|                                                                                    | Power loss at 100% load         | [W]                                  | 200   | 275   | 372   | 412             | 562             | 693             |
|                                                                                    | Weight                          | [kg]                                 | 3.7   | 6.0   | 6.0   | 18.5            | 18.5            | 18.5            |
|                                                                                    | Enclosure <sup>4)</sup>         | type                                 | IP20  | IP20  | IP20  | IP20/<br>NEMA 1 | IP20/<br>NEMA 1 | IP20/<br>NEMA 1 |

1. American Wire Gauge. Max. cable cross section is the largest cable cross section that can be attached to the terminals. Always observe national and local regulations.

2. Type gG pre-fuses must be used for installation according to IEC rules. If you want to maintain UL/cUL you must use pre-fuses of the type Bussmann KTN-R 200 V, KTS-R 500 V or Ferraz Shawmut, type ATMR (max. 30A). The fuses must be placed for protection in a circuit that is capable of supplying a maximum of 100,000 amps RMS (symmetrical), 500 V maximum. See table under *Pre-fuses*.

3. Measured using a 25 m screened/armoured motor cable with a rated load and rated frequency.

4. IP20 is standard for VLT 2805-2875, whereas NEMA 1 is an option.

## VLT® 2800 Series

### ■ Accessories for the VLT 2800

| Type                                   | Description                                                                                     | Ordering no. |
|----------------------------------------|-------------------------------------------------------------------------------------------------|--------------|
| Motor coil                             | The motor coil module can be used for VLT 2803-2875                                             | 195N3110     |
| RFI 1B filter                          | The RFI 1B filter module can be used for VLT 2803-2875                                          | 195N3103     |
| RFI 1B/LC filter 4 A                   | The RFI 1B/LC filter 4 A can be used for VLT 2803-2805<br>200-240 V and VLT 2805-2815 380-400 V | 195N3100     |
| RFI 1B/LC filter 9.1 A                 | RFI 1B/LC filter 9.1 A can be used for VLT 2807-2815 200-240 V and VLT 2822-2840 380-400 V      | 195N3101     |
| EMC filter                             | EMC filter for long motor cables can be used for VLT 2805-2815 380-480 V                        | 192H4719     |
| EMC filter                             | EMC filter for long motor cables can be used for VLT 2822-2840 380-480 V                        | 192H4720     |
| EMC filter                             | EMC filter for long motor cables can be used for VLT 2855-2875 380-480 V                        | 192H4893     |
| NEMA 1 terminal cover                  | VLT 2803-2815 200-240 V, VLT 2805-2815 380-480 V                                                | 195N1900     |
| NEMA 1 terminal cover                  | VLT 2822 200-240 V, VLT 2822-2840 380-480 V                                                     | 195N1901     |
| NEMA 1 terminal cover                  | VLT 2840, VLT 2840 PD2 200-240 V, VLT 2855-2875 380-480 V                                       | 195N1902     |
| IP 21 top cover                        | VLT 2803-2815 200-240 V, VLT 2805-2815 380-480 V                                                | 195N2179     |
| IP 21 top cover                        | VLT 2822 200-240 V, VLT 2822-2840 380-480 V                                                     | 195N2180     |
| IP 21 top cover                        | VLT 2840 200-240 V, VLT 2822 PD2, VLT 2855-2875 380-480 V                                       | 195N2181     |
| IP 21 top cover                        | VLT 2880-2882 380-480 V, VLT 2840 PD2                                                           | 195N2182     |
| LCP 2 control unit                     | LCP 2 for programming the frequency converter                                                   | 175N0131     |
| Cable for LCP 2 control unit           | Cable from LCP 2 to frequency converter                                                         | 175Z0929     |
| DeviceNet cable                        | Cable for DeviceNet connection                                                                  | 195N3113     |
| LCP 2 remote-mounting kit              | Kit for remote-mounting of LCP 2 (incl. 3 m cable, excl. LCP 2)                                 | 175Z0850     |
| LOP (Local Operation Pad)              | LOP can be used for setting the reference and start/stop via the control terminals.             | 175N0128     |
| VLT Software Dialog                    | CD-ROM version <sup>1</sup>                                                                     | 175Z0967     |
| MCT 10                                 | Set-up Software                                                                                 | 130B1000     |
| External heat sink, small <sup>2</sup> | W x H x D = 222 x 450 x 65mm <sup>3</sup>                                                       | 195N3111     |
| External heat sink, large <sup>2</sup> | W x H x D = 288 x 450 x 71mm <sup>3</sup>                                                       | 195N3112     |

<sup>1</sup>) Incl. the modules Basis, Logging, Template, Guided Tour in 6 languages (Danish, English, German, Italian, Spanish and French). <sup>2</sup>) For further information see VLT 2800 Cold Plate Instruction MI.28.DX.02.

■ **Available literature**

■ **Supplied with the unit**

Below is a list of the literature available for VLT 2800.  
It must be noted that there may be deviations from one country to the next.

Supplied with the unit:

|                        |             |
|------------------------|-------------|
| Operating instructions | MG.27.AX.YY |
|------------------------|-------------|

Various literature for VLT 2800:

|              |             |
|--------------|-------------|
| Design Guide | MG.27.EX.YY |
|--------------|-------------|

|            |             |
|------------|-------------|
| Data sheet | MD.27.AX.YY |
|------------|-------------|

**Instructions for VLT 2800:**

|                         |             |
|-------------------------|-------------|
| LCP remote-mounting kit | MI.56.AX.51 |
|-------------------------|-------------|

|                    |             |
|--------------------|-------------|
| Filter instruction | MI.28.B1.02 |
|--------------------|-------------|

|                          |             |
|--------------------------|-------------|
| VLT 2800 DeviceNet cable | MI.28.F1.02 |
|--------------------------|-------------|

|            |             |
|------------|-------------|
| Cold plate | MI.28.D1.02 |
|------------|-------------|

|              |             |
|--------------|-------------|
| Precise stop | MI.28.C1.02 |
|--------------|-------------|

**Communication with VLT 2800:**

|                 |             |
|-----------------|-------------|
| Profibus manual | MG.90.AX.YY |
|-----------------|-------------|

|                           |             |
|---------------------------|-------------|
| VLT 2800 DeviceNet manual | MG.90.BX.YY |
|---------------------------|-------------|

*X = version number YY = language version*





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