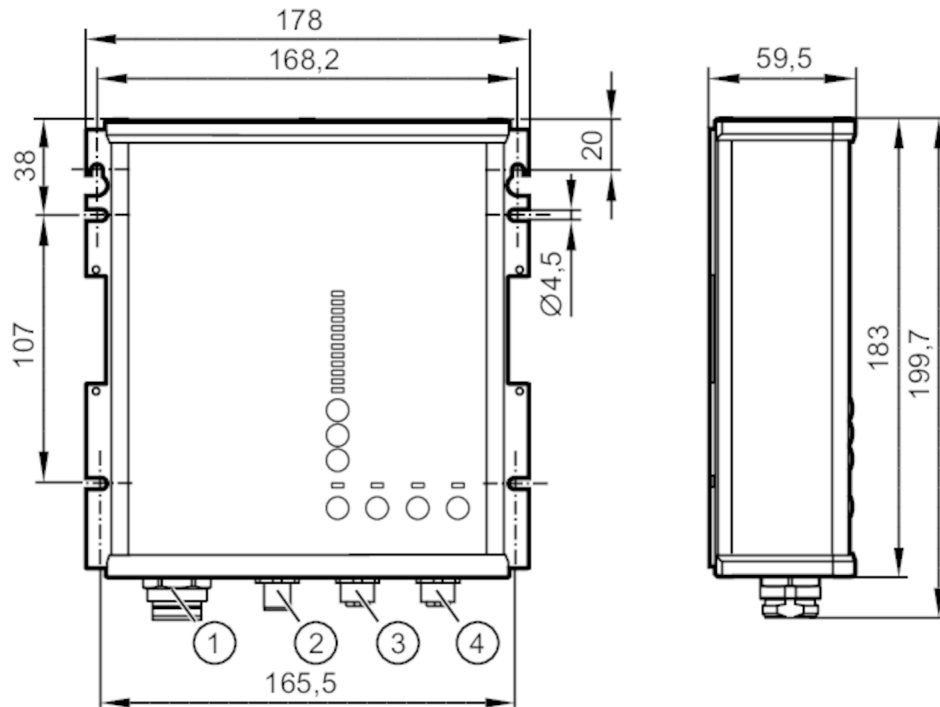


# DN4237



## Switched-mode power supply 24 V DC

PSU-3AC/24VDC-20A/IOL/IP67



- 1 power supply
- 2 IO-Link
- 3 Output voltage
- 4 Output voltage



### Electrical data

|                                                           |      |           |
|-----------------------------------------------------------|------|-----------|
| Nominal voltage AC                                        | [V]  | 400 / 480 |
| Nominal frequency AC                                      | [Hz] | 50...60   |
| Input voltage range AC                                    | [V]  | 323...552 |
| Output voltage DC                                         | [V]  | 24...28   |
| Protection class                                          |      | I         |
| Max. power-on delay time                                  | [ms] | 12        |
| Output voltage tolerance                                  | [%]  | 0.2       |
| Max. output current at min. output voltage                | [A]  | 20.8      |
| Max. output current at max. output voltage                | [A]  | 17.8      |
| Output power (permanent)                                  | [W]  | 500       |
| Output power (peak)                                       | [W]  | 1000      |
| Power factor (nominal voltage 400 V AC / 50 Hz)           |      | 0.94      |
| Power factor (nominal voltage 480 V AC / 50 Hz)           |      | 0.95      |
| Number of output circuits                                 |      | 4         |
| Switch-on peak current (nominal voltage 400 V AC / 60 Hz) | [A]  | 2.1       |



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|                                                                 |      |      |
|-----------------------------------------------------------------|------|------|
| Switch-on peak current<br>(nominal voltage 480 V AC /<br>50 Hz) | [A]  | 2    |
| Efficiency (nominal voltage<br>400 V AC / 60 Hz)                | [%]  | 94.2 |
| Efficiency (nominal voltage<br>480 V AC / 50 Hz)                | [%]  | 94   |
| Mains buffering time (nominal<br>voltage 400 V AC / 60 Hz)      | [ms] | 24   |
| Mains buffering time (nominal<br>voltage 480 V AC / 50 Hz)      | [ms] | 24   |
| Input current (nominal voltage<br>400 V AC / 60 Hz)             | [A]  | 1.1  |
| Input current (nominal voltage<br>480 V AC / 50 Hz)             | [A]  | 0.9  |

## Outputs

|                         |      |      |
|-------------------------|------|------|
| Load capacitance, total | [mF] | 12.5 |
|-------------------------|------|------|

## Interfaces

|                               |                    |
|-------------------------------|--------------------|
| Communication interface       | IO-Link            |
| Unterstützte Masterportklasse | A                  |
| Transmission type             | COM3 (230,4 kBaud) |
| IO-Link revision              | 1.1                |
| SIO mode                      | yes                |
| Min. process cycle time [ms]  | 2                  |

## Operating conditions

|                             |      |                         |
|-----------------------------|------|-------------------------|
| Ambient temperature         | [°C] | -25...70                |
| Storage temperature         | [°C] | -40...85                |
| Max. relative air humidity  | [%]  | 95; (relative humidity) |
| Max. height above sea level | [m]  | 5000                    |
| Protection                  |      | IP 65; IP 67            |
| Pollution degree            |      | 3                       |



## Switched-mode power supply 24 V DC

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| Tests / approvals                                                                              |                                                                  |                                                 |                                         |
|------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------|-----------------------------------------|
| EMC                                                                                            | EN 61000-4-2 CD                                                  | 8 kV / failure criterion A                      |                                         |
|                                                                                                | EN 61000-4-2 AD                                                  | 15 kV / failure criterion A                     |                                         |
|                                                                                                | EN 61000-4-3                                                     | 80 Mhz...2.7 GHz / 20 V/m failure criterion A   |                                         |
|                                                                                                | EN 61000-4-3                                                     | 2.7 GHz...6 GHz kV / 10 V/m failure criterion A |                                         |
|                                                                                                | EN 61000-4-8                                                     | 50 / 60 Hz / 30 A/m failure criterion A         |                                         |
|                                                                                                | EN 61000-4-4 Burst                                               | 4 kV / failure criterion A                      |                                         |
|                                                                                                | EN 61000-4-5 Surge                                               | 2 kV Lx / Ly / failure criterion A              |                                         |
|                                                                                                | EN 61000-4-5 Surge                                               | 4 kV L / PE / failure criterion A               |                                         |
|                                                                                                | EN 61000-4-5 Surge                                               | 1 kV + / - / failure criterion A                |                                         |
|                                                                                                | EN 61000-4-5 Surge                                               | 1 kV + - / PE / failure criterion A             |                                         |
|                                                                                                | EN 61000-4-5 Surge                                               | 1 kV + - / PE / failure criterion A             |                                         |
|                                                                                                | EN 61000-4-5 Surge                                               | 1 kV DC-OK / PE / failure criterion A           |                                         |
|                                                                                                | EN 61000-4-6                                                     | 0.15...80 MHz / 20 V failure criterion A        |                                         |
|                                                                                                | EN 61000-4-11                                                    | 0 V up to 1 cycle / failure criterion A         |                                         |
|                                                                                                | EN 61000-4-11                                                    | 40 % of V / 200 ms failure criterion A          |                                         |
|                                                                                                | EN 61000-4-11                                                    | 70 % of V / 500 ms failure criterion A          |                                         |
|                                                                                                | EN 61000-4-11                                                    | 0 V / 5000 ms failure criterion C               |                                         |
|                                                                                                | VDE 0160                                                         | 1550 V / 1.3 ms failure criterion A             |                                         |
|                                                                                                | EN 55032                                                         | Class B                                         |                                         |
|                                                                                                | EN 55032                                                         | Class B                                         |                                         |
|                                                                                                | EN 55011                                                         | Class B                                         |                                         |
|                                                                                                | EN 61000-3-2                                                     |                                                 |                                         |
|                                                                                                | EN 61000-3-3                                                     |                                                 |                                         |
|                                                                                                | Continuous shock resistance                                      | IEC 60068-2-27                                  | 30 g 6 ms / 20 g 11 ms                  |
|                                                                                                | Vibration resistance                                             | IEC 600068-2-6                                  | 2...17.8 Hz ± 1.6mm / 17.8...500 Hz 2 g |
| Mechanical data                                                                                |                                                                  |                                                 |                                         |
| Weight                                                                                         | [g]                                                              | 1616.05                                         |                                         |
| Dimensions                                                                                     | [mm]                                                             | 182 x 183 x 59                                  |                                         |
| Materials                                                                                      | housing: aluminium alloy; housing cap: PC; screws: steel bronzed |                                                 |                                         |
| Remarks                                                                                        |                                                                  |                                                 |                                         |
| Pack quantity                                                                                  | 1 pcs.                                                           |                                                 |                                         |
| Electrical connection - IO-Link                                                                |                                                                  |                                                 |                                         |
| Connector: 1 x M12; coding: A; Locking: brass                                                  |                                                                  |                                                 |                                         |
| <div></div> |                                                                  |                                                 |                                         |
| 1:                                                                                             | power supply L+                                                  |                                                 |                                         |
| 2:                                                                                             | n.c.                                                             |                                                 |                                         |
| 3:                                                                                             | power supply L-                                                  |                                                 |                                         |
| 4:                                                                                             | IO-Link                                                          |                                                 |                                         |

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## Switched-mode power supply 24 V DC

PSU-3AC/24VDC-20A/IOL/IP67

### Electrical connection - Output voltage

Connector: 2 x M12; coding: L; Locking: brass



|    |        |
|----|--------|
| 1: | US     |
| 2: | GND UA |
| 3: | GND US |
| 4: | UA     |
| 5: | FE     |

### Electrical connection - power supply

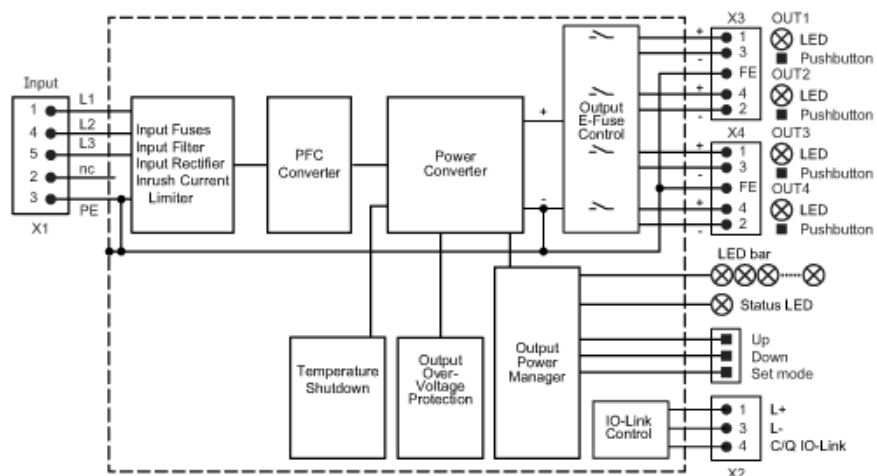
Connector: 1 x 7/8"; Locking: brass



|    |    |
|----|----|
| 1: | L1 |
| 2: | N  |
| 3: | PE |
| 4: | L2 |
| 5: | L3 |

### Diagrams and graphs

block diagram





## Switched-mode power supply 24 V DC

PSU-3AC/24VDC-20A/IOL/IP67

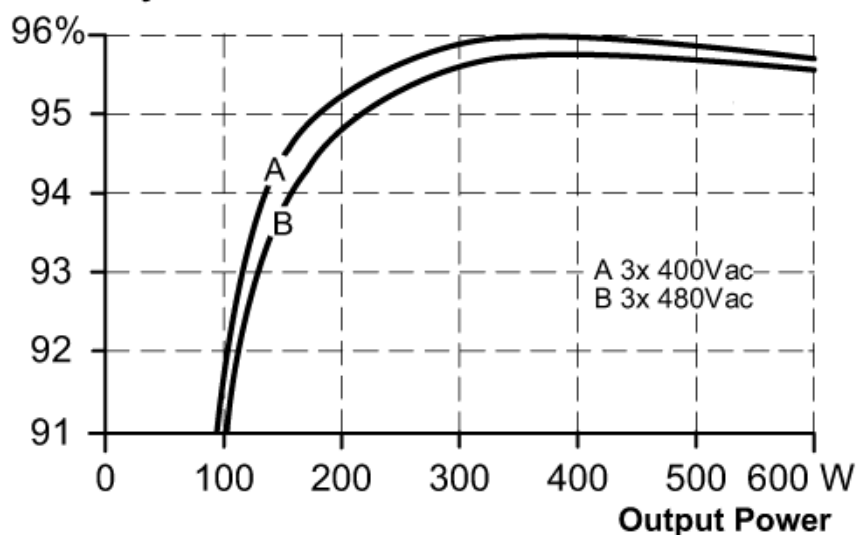
output characteristics

**Output Voltage**



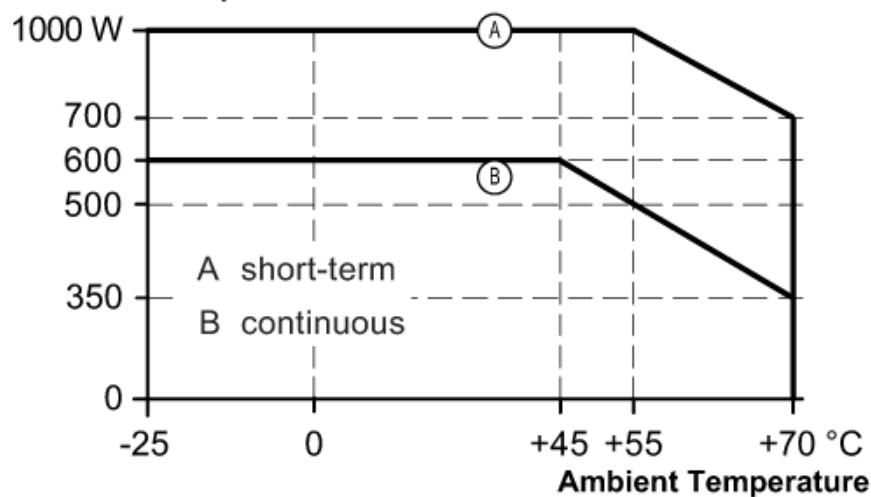
characteristic curve for degree of efficiency / power loss

**Efficiency**



characteristic line for derating

**Allowed Output Power**



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## Switched-mode power supply 24 V DC

PSU-3AC/24VDC-20A/IOL/IP67

characteristic line for mains buffering  
time

