

SIPLUS HMI MTP1200 Unified Comfort, with conformal coating based on 6AV2128-3MB06-0AX1



Figure similar

| General information                                                   |                                    |
|-----------------------------------------------------------------------|------------------------------------|
| Product type designation                                              | MTP1200 Unified Comfort            |
| based on                                                              | <a href="#">6AV2128-3MB06-0AX1</a> |
| Display                                                               |                                    |
| Design of display                                                     | TFT                                |
| Screen diagonal                                                       | 12.1 in                            |
| Display width                                                         | 261.1 mm                           |
| Display height                                                        | 163.2 mm                           |
| Number of colors                                                      | 16 777 216                         |
| Resolution (pixels)                                                   |                                    |
| • Horizontal image resolution                                         | 1 280 pixel                        |
| • Vertical image resolution                                           | 800 pixel                          |
| Backlighting                                                          |                                    |
| • MTBF backlighting (at 25 °C)                                        | 50 000 h; At 25°C                  |
| • Backlight dimmable                                                  | Yes; 5-100 %                       |
| Control elements                                                      |                                    |
| Keyboard                                                              |                                    |
| • Numeric keyboard                                                    | Yes; Onscreen keyboard             |
| • alphanumeric keyboard                                               | Yes; Onscreen keyboard             |
| Touch operation                                                       |                                    |
| • Design as touch screen                                              | Yes                                |
| • Design as multi-touch screen                                        | Yes                                |
| Installation type/mounting                                            |                                    |
| Mounting position                                                     | vertical                           |
| Mounting in portrait format possible                                  | Yes                                |
| Mounting in landscape format possible                                 | Yes                                |
| maximum permissible angle of inclination without external ventilation | 35°                                |
| Supply voltage                                                        |                                    |
| Type of supply voltage                                                | DC                                 |
| Rated value (DC)                                                      | 24 V                               |
| permissible range, lower limit (DC)                                   | 19.2 V                             |
| permissible range, upper limit (DC)                                   | 28.8 V                             |
| Input current                                                         |                                    |
| Current consumption (rated value)                                     | 0.6 A                              |
| Current consumption, max.                                             | 1.3 A                              |
| Starting current inrush I <sup>2</sup> t                              | 0.5 A <sup>2</sup> ·s              |
| Storage                                                               |                                    |

|                                                                |                                         |
|----------------------------------------------------------------|-----------------------------------------|
| Flash                                                          | Yes                                     |
| RAM                                                            | Yes                                     |
| <b>Type of output</b>                                          |                                         |
| Acoustics                                                      |                                         |
| • Buzzer                                                       | Yes                                     |
| • Speaker                                                      | No                                      |
| <b>Time of day</b>                                             |                                         |
| Clock                                                          |                                         |
| • Hardware clock (real-time)                                   | Yes                                     |
| • Software clock                                               | Yes                                     |
| • retentive                                                    | Yes; Back-up duration typically 6 weeks |
| • synchronizable                                               | Yes                                     |
| <b>Interfaces</b>                                              |                                         |
| Number of industrial Ethernet interfaces                       | 2; 2 ports (switch) + independent port  |
| Number of RS 485 interfaces                                    | 1; RS 422 / 485 combined                |
| Number of RS 422 interfaces                                    | 0; together with RS 485                 |
| Number of USB interfaces                                       | 4; USB 3.1 Gen. 1 (type A)              |
| Number of SD card slots                                        | 2                                       |
| Industrial Ethernet                                            |                                         |
| • Industrial Ethernet status LED                               | 2                                       |
| • Number of ports of the integrated switch                     | 2                                       |
| <b>Protocols</b>                                               |                                         |
| PROFINET                                                       | Yes                                     |
| Supports protocol for PROFINET IO                              | No                                      |
| Protocols (Ethernet)                                           |                                         |
| • TCP/IP                                                       | Yes                                     |
| • DHCP                                                         | Yes                                     |
| • SNMP                                                         | Yes                                     |
| • DCP                                                          | Yes                                     |
| • LLDP                                                         | Yes                                     |
| Redundancy mode                                                |                                         |
| Media redundancy                                               |                                         |
| — MRP                                                          | Yes                                     |
| <b>EMC</b>                                                     |                                         |
| Emission of radio interference acc. to EN 55 011               |                                         |
| • Limit class A, for use in industrial areas                   | Yes                                     |
| • Limit class B, for use in residential areas                  | No                                      |
| <b>Degree and class of protection</b>                          |                                         |
| IP (at the front)                                              | IP65                                    |
| IP (rear)                                                      | IP20                                    |
| NEMA (front)                                                   |                                         |
| • Enclosure Type 4x at the front                               | Yes                                     |
| • Enclosure Type 12 at the front                               | Yes                                     |
| <b>Standards, approvals, certificates</b>                      |                                         |
| Ecological footprint                                           |                                         |
| • environmental product declaration                            | Yes                                     |
| Global warming potential                                       |                                         |
| — global warming potential, (total) [CO2 eq]                   | 220 kg                                  |
| — global warming potential, (during production) [CO2 eq]       | 60.5 kg                                 |
| — global warming potential, (during operation) [CO2 eq]        | 167 kg                                  |
| — global warming potential, (after end of life cycle) [CO2 eq] | -8.95 kg                                |
| <b>Ambient conditions</b>                                      |                                         |
| Suited for indoor use                                          | Yes                                     |
| Suited for outdoor use                                         | No                                      |
| Ambient temperature during operation                           |                                         |
| Operation (vertical installation)                              |                                         |

|                                                                                                                         |                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| — For vertical installation, min.                                                                                       | 0 °C; = Tmin                                                                                                                                                                                                    |
| — For vertical installation, max.                                                                                       | 50 °C; = Tmax                                                                                                                                                                                                   |
| <b>Operation (max. tilt angle)</b>                                                                                      |                                                                                                                                                                                                                 |
| — At maximum tilt angle, min.                                                                                           | 0 °C; = Tmin                                                                                                                                                                                                    |
| — At maximum tilt angle, max.                                                                                           | 40 °C; = Tmax                                                                                                                                                                                                   |
| <b>Operation (vertical installation, portrait format)</b>                                                               |                                                                                                                                                                                                                 |
| — For vertical installation, min.                                                                                       | 0 °C; = Tmin                                                                                                                                                                                                    |
| — For vertical installation, max.                                                                                       | 40 °C; = Tmax                                                                                                                                                                                                   |
| <b>Operation (max. tilt angle, portrait format)</b>                                                                     |                                                                                                                                                                                                                 |
| — At maximum tilt angle, min.                                                                                           | 0 °C; = Tmin                                                                                                                                                                                                    |
| — At maximum tilt angle, max.                                                                                           | 35 °C; = Tmax                                                                                                                                                                                                   |
| <b>Ambient temperature during storage/transportation</b>                                                                |                                                                                                                                                                                                                 |
| • min.                                                                                                                  | -20 °C                                                                                                                                                                                                          |
| • max.                                                                                                                  | 60 °C                                                                                                                                                                                                           |
| <b>Altitude during operation relating to sea level</b>                                                                  |                                                                                                                                                                                                                 |
| • Installation altitude above sea level, max.                                                                           | 5 000 m                                                                                                                                                                                                         |
| • Ambient air temperature-barometric pressure-altitude                                                                  | Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m) |
| <b>Relative humidity</b>                                                                                                |                                                                                                                                                                                                                 |
| • With condensation, tested in accordance with IEC 60068-2-38, max.                                                     | 100 %; RH incl. condensation/frost (no commissioning when condensation present), horizontal at vertical mounting position                                                                                       |
| <b>Resistance</b>                                                                                                       |                                                                                                                                                                                                                 |
| <b>Coolants and lubricants</b>                                                                                          |                                                                                                                                                                                                                 |
| — Resistant to commercially available coolants and lubricants                                                           | Yes; Incl. diesel and oil droplets in the air                                                                                                                                                                   |
| <b>Use in stationary industrial systems</b>                                                                             |                                                                                                                                                                                                                 |
| — to biologically active substances according to EN 60721-3-3                                                           | Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request                                                                                                              |
| — to chemically active substances according to EN 60721-3-3                                                             | Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *                                                                                                                        |
| — to mechanically active substances according to EN 60721-3-3                                                           | Yes; Class 3S4 incl. sand, dust, *                                                                                                                                                                              |
| <b>Use on ships/at sea</b>                                                                                              |                                                                                                                                                                                                                 |
| — to biologically active substances according to EN 60721-3-6                                                           | Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)                                                                                                                                                |
| — to chemically active substances according to EN 60721-3-6                                                             | Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *                                                                                                                        |
| — to mechanically active substances according to EN 60721-3-6                                                           | Yes; Class 6S3 incl. sand, dust; *                                                                                                                                                                              |
| <b>Usage in industrial process technology</b>                                                                           |                                                                                                                                                                                                                 |
| — Against chemically active substances acc. to EN 60654-4                                                               | Yes; Class 3 (excluding trichlorethylene)                                                                                                                                                                       |
| — Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04                            | Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)                             |
| <b>Remark</b>                                                                                                           |                                                                                                                                                                                                                 |
| — Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04             | * The supplied plug covers must remain in place over the unused interfaces during operation!                                                                                                                    |
| <b>Conformal coating</b>                                                                                                |                                                                                                                                                                                                                 |
| • Coatings for printed circuit board assemblies acc. to EN 61086                                                        | Yes; Class 2 for high reliability                                                                                                                                                                               |
| • Protection against fouling acc. to EN 60664-3                                                                         | Yes; Type 1 protection                                                                                                                                                                                          |
| • Military testing according to MIL-I-46058C, Amendment 7                                                               | Yes; Discoloration of coating possible during service life                                                                                                                                                      |
| • Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A | Yes; Conformal coating, Class A                                                                                                                                                                                 |
| <b>Operating systems</b>                                                                                                |                                                                                                                                                                                                                 |
| proprietary                                                                                                             | Yes                                                                                                                                                                                                             |
| <b>Configuration</b>                                                                                                    |                                                                                                                                                                                                                 |
| Message indicator                                                                                                       | Yes                                                                                                                                                                                                             |
| Alarm system (incl. buffer and acknowledgment)                                                                          | Yes                                                                                                                                                                                                             |
| Process value display (output)                                                                                          | Yes                                                                                                                                                                                                             |

|                                                              |                                  |
|--------------------------------------------------------------|----------------------------------|
| Process value default (input) possible                       | Yes                              |
| Recipe management                                            | Yes                              |
| <b>Configuration software</b>                                |                                  |
| • WinCC Unified Comfort Engineering (TIA Portal)             | Yes                              |
| • WinCC Unified PC Engineering (TIA Portal)                  | Yes                              |
| <b>Languages</b>                                             |                                  |
| <b>Online languages</b>                                      |                                  |
| • Number of online/runtime languages                         | 32                               |
| <b>Project languages</b>                                     |                                  |
| • Languages per project                                      | 32                               |
| <b>Functionality under WinCC Unified</b>                     |                                  |
| Libraries                                                    | Yes                              |
| <b>Applications/options</b>                                  |                                  |
| • Writer                                                     | Yes                              |
| • Web browser                                                | Yes                              |
| • Media Player                                               | Yes                              |
| • SIMATIC WinCC Sm@rtServer                                  | Yes                              |
| • SIMATIC WinCC Audit                                        | No                               |
| • Unified Collaboration                                      | Yes                              |
| JavaScript                                                   | Yes                              |
| <b>Task planner</b>                                          |                                  |
| • time-controlled                                            | Yes                              |
| • task-controlled                                            | Yes                              |
| <b>Help system</b>                                           |                                  |
| • Number of characters per info text                         | 70                               |
| • Number of message texts per message                        | 10                               |
| <b>Message system</b>                                        |                                  |
| • Number of alarm classes                                    | 32                               |
| • Bit messages                                               |                                  |
| — Number of bit messages                                     | 9 000                            |
| • Analog messages                                            |                                  |
| — Number of analog messages                                  | 300                              |
| • S7 alarm number procedure                                  | Yes                              |
| • System messages HMI                                        | Yes                              |
| • System event, more (SIMATIC S7, SINUMERIK, SIMOTION, ... ) | Yes                              |
| • Number of characters per message                           | 512                              |
| • Number of process values per message                       | 10                               |
| • Acknowledgment groups                                      | Yes                              |
| • Message indicator                                          | Yes; as dynamic widgets          |
| • Message buffer                                             | Yes; Configured as alarm archive |
| — Circulating buffer                                         | Yes                              |
| — retentive                                                  | Yes                              |
| — maintenance-free                                           | Yes                              |
| <b>Parameter set management (recipes)</b>                    |                                  |
| • Number of parameter set types                              | 750                              |
| • Parameter sets per parameter set type                      | 2 000                            |
| • Entries per parameter set                                  | 1 000                            |
| • Size of internal parameter set memory                      | 12 Mbyte                         |
| • Parameter set memory expandable                            | Yes                              |
| <b>Variables</b>                                             |                                  |
| • Number of variables per device                             | 8 000                            |
| • Number of variables per screen                             | 600                              |
| • Limit values                                               | Yes                              |
| • Structures                                                 | Yes                              |
| • Arrays                                                     | Yes                              |
| <b>Images</b>                                                |                                  |
| • Number of configurable images                              | 1 200                            |
| • Faceplate                                                  | Yes                              |

|                                        |                              |
|----------------------------------------|------------------------------|
| Image objects                          |                              |
| • Number of objects per image          | 800                          |
| • Picture window                       | Yes                          |
| • Text fields                          | Yes                          |
| • I/O fields                           | Yes                          |
| • Graphic I/O fields (graphics list)   | Yes                          |
| • Symbolic I/O fields (text list)      | Yes                          |
| • Scalable Vector Graphics (SVG)       | Yes                          |
| • Date/time fields                     | Yes                          |
| • Checkbox                             | Yes                          |
| • Option button                        | Yes                          |
| • Switches                             | Yes                          |
| • Buttons                              | Yes                          |
| • Graphic display                      | Yes                          |
| • Icons                                | Yes                          |
| • Custom web display                   | Yes                          |
| • Geometric objects                    | Yes                          |
| Complex image objects                  |                              |
| • Number of complex objects per screen | 40                           |
| • Alarm view                           | Yes                          |
| • Trend view                           | Yes                          |
| • User view                            | Yes                          |
| • Status/control                       | No                           |
| • Parameter set display                | Yes                          |
| • HTML browser                         | Yes                          |
| • Bar graphs                           | Yes                          |
| • Sliders                              | Yes                          |
| • Pointer instruments                  | Yes                          |
| • Analog/digital clock                 | Yes                          |
| Lists                                  |                              |
| • Number of text lists per project     | 750                          |
| • Number of entries per text list      | 750                          |
| • Number of graphics lists per project | 750                          |
| • Number of entries per graphics list  | 750                          |
| Archiving                              |                              |
| • Number of archives per device        | 50                           |
| • Number of entries per archive        | 500 000                      |
| • Message archive                      | Yes                          |
| • Process value archive                | Yes                          |
| • Archiving methods                    |                              |
| — Sequential archive                   | Yes                          |
| — Short-term archive                   | Yes                          |
| • Memory location                      |                              |
| — Memory card                          | Yes                          |
| — USB memory                           | Yes                          |
| — Ethernet                             | No                           |
| Security                               |                              |
| • Number of roles                      | 50                           |
| • Number of function rights            | 0; V16                       |
| • Number of users                      | 200                          |
| • Password export/import               | Yes                          |
| • Central user administration          | Yes; as of WinCC V17         |
| Transfer (upload/download)             |                              |
| • USB                                  | No                           |
| • Ethernet                             | Yes                          |
| • using external storage medium        | Yes; as of WinCC Unified V17 |
| Process coupling                       |                              |
| • S7-1200                              | Yes                          |
| • S7-1500                              | Yes                          |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
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| <ul style="list-style-type: none"><li>• S7-200</li><li>• S7-300/400</li><li>• Number of S7 connections</li><li>• LOGO!</li><li>• SIMOTION</li><li>• OPC UA Client</li><li>• OPC UA Server</li><li>• Software Controller/Open Controller</li></ul>                                                                                                                                                                                                                                                                                                                       | No<br>Yes<br>16<br>Yes; as of WinCC Unified V20<br>No<br>Yes<br>Yes<br>Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Service tools/configuration aids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| <ul style="list-style-type: none"><li>• Backup/Restore manually</li><li>• Backup/Restore automatically</li><li>• Simulation</li><li>• Device switchover</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                       | Yes<br>Yes<br>Yes<br>Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Peripherals/Options                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Peripherals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Printer, barcode reader                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Printer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| SIMATIC HMI MM memory card: Multi Media Card                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| SIMATIC HMI SD memory card: Secure Digital memory card                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| SIMATIC HMI CF memory card Compact Flash Card                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| USB memory                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| SIMATIC IPC USB Flashdrive (USB stick)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| SIMATIC HMI USB stick                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Network camera                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Mechanics/material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Enclosure material (front) <ul style="list-style-type: none"><li>• Aluminum</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Width of the housing front                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 326 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Height of housing front                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 237 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Mounting cutout, width                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 310.6 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Mounting cutout, height                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 221.1 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| mounting depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 64 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Weights                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Weight (without packaging)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2.8 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Classifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <table><tr><td></td><td>Version</td><td>Classification</td></tr><tr><td>eClass</td><td>16</td><td>27-33-02-01</td></tr><tr><td>eClass</td><td>14</td><td>27-33-02-01</td></tr><tr><td>eClass</td><td>12</td><td>27-33-02-01</td></tr><tr><td>eClass</td><td>9.1</td><td>27-33-02-01</td></tr><tr><td>eClass</td><td>9</td><td>27-33-02-01</td></tr><tr><td>eClass</td><td>8</td><td>27-24-23-02</td></tr><tr><td>eClass</td><td>7.1</td><td>27-24-23-02</td></tr><tr><td>eClass</td><td>6</td><td>27-24-23-02</td></tr><tr><td>ETIM</td><td>10</td><td>EC001412</td></tr><tr><td>ETIM</td><td>9</td><td>EC001412</td></tr><tr><td>ETIM</td><td>8</td><td>EC001412</td></tr><tr><td>ETIM</td><td>7</td><td>EC001412</td></tr></table> |                      | Version | Classification | eClass | 16 | 27-33-02-01 | eClass | 14 | 27-33-02-01 | eClass | 12 | 27-33-02-01 | eClass | 9.1 | 27-33-02-01 | eClass | 9 | 27-33-02-01 | eClass | 8 | 27-24-23-02 | eClass | 7.1 | 27-24-23-02 | eClass | 6 | 27-24-23-02 | ETIM | 10 | EC001412 | ETIM | 9 | EC001412 | ETIM | 8 | EC001412 | ETIM | 7 | EC001412 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Version                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Classification       |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| eClass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 27-33-02-01          |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| eClass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 14                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 27-33-02-01          |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| eClass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 27-33-02-01          |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| eClass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 9.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 27-33-02-01          |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| eClass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 27-33-02-01          |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| eClass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 27-24-23-02          |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| eClass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 7.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 27-24-23-02          |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| eClass                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 27-24-23-02          |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| ETIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | EC001412             |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| ETIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | EC001412             |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| ETIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | EC001412             |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| ETIM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | EC001412             |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| Approvals / Certificates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| General Product Approval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | EMV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Maritime application |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |
| <div><div><br/>EG-Konf.</div><div></div><div></div><div><a href="#">China RoHS</a></div><div><br/>RCM</div><div><br/>DNV</div></div> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |         |                |        |    |             |        |    |             |        |    |             |        |     |             |        |   |             |        |   |             |        |     |             |        |   |             |      |    |          |      |   |          |      |   |          |      |   |          |



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