

# MOVIDRIVE® modular

The modular application inverter for all types of applications, ranging from simple open-loop speed control to servo drives with kinematic models with simple connectivity to MOVI-C® Controller.

Compact multi-axis system consisting of power supply modules, regenerative power supply modules, single and double-axis modules.



|                           |  |                                |                      |  |
|---------------------------|--|--------------------------------|----------------------|--|
| <b>Overall Features</b>   | <ul style="list-style-type: none"> <li>Built-in Safe Torque Off (STO)</li> <li>Integrated multi-encoder interface</li> <li>Up to 250% overload for 1s</li> <li>State-of-the-art control modes for optimum control performance</li> <li>Suitable for TN, TT and IT voltage supply systems</li> <li>DC link connection for connection to DC or regenerative power supply</li> <li>Expansion slots for I/O, multi-encoder, functional safety</li> <li>Compact device size</li> <li>Digital motor integration interface</li> </ul> |                                |                      |  |
| <b>Single-axis</b>        | <ul style="list-style-type: none"> <li>Control via a MOVI-C® CONTROLLER</li> <li>Available as variant with EtherCAT® CiA402 profile for connectivity to higher level PLC</li> <li>Up to 1200 m motor cable length</li> <li>Up to 15 drives on one power supply module</li> <li>Built-in 6 Digital inputs, 4 Digital outputs</li> </ul>   |                                |                      |  |
| <b>Double-axis</b>        | <ul style="list-style-type: none"> <li>Control via a MOVI-C® CONTROLLER</li> <li>Available as variant with EtherCAT® CiA402 profile for connectivity to higher level PLC</li> <li>Up to 800 m motor cable length</li> <li>Up to 30 drives on one power supply module</li> <li>Built-in 12 Digital inputs, 8 Digital outputs</li> </ul>   |                                |                      |  |
| <b>Practical Benefits</b> | <ul style="list-style-type: none"> <li>Extremely easy startup using electronic name plate or electronic catalog</li> <li>Easy startup of unknown motors using calibration function</li> <li>Energy- saving functions for partial-load or standby mode</li> <li>Achieve your goal faster and more easily: ready-made MOVIKIT® software modules</li> <li>Available for a multitude of applications</li> </ul>  |                                |                      |  |
| <b>Encoder Interfaces</b> | <ul style="list-style-type: none"> <li>HTL 12/24V (Differential)</li> <li>TTL (Differential)</li> <li>RS422 (Differential)</li> <li>SIN/COS 1 Vss (Differential)</li> <li>HIPERFACE® with SIN/COS signal 1 Vss</li> <li>SEW encoder (RS485) with SIN/COS signal 1 Vss</li> <li>Resolver</li> </ul>   |                                |                      |  |
| <b>Power supply</b>       | <b>Nominal line voltage</b>  | <b>Nominal DC Link voltage</b> | <b>Nominal power</b> | <b>Overload capacity</b>                 |
| <b>MDP90A..</b>           | 3 x AC 380 – 500 V   | DC 560 V                       | 10 – 110 kW          | 250 %                                    |
| <b>MDR91A..</b>           | 3 x AC 380 – 480 V   | DC 560 V                       | 50 – 75 kW           | 225 %                                    |
| <b>Inverter</b>           | <b>Nominal output current</b>  |                                |                      | <b>Overload capacity for 1s at 4 kHz</b> |
|                           | <b>PWM = 4 kHz</b>   | <b>PWM = 8 kHz</b>             | <b>PWM = 16 kHz</b>  |  |
| <b>Single-axis</b>        | 2 – 180 A  | 1.5 – 125 A                    | 1 – 40 A             | 250 %                                    |
| <b>Double-axis</b>        | 2 x (2 A – 8 A)  | 2 x (1.5 A – 6 A)              | –                    | 250 %                                    |

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| Accessories        |  |
|--------------------|--|
| <b>CID21A card</b> | 4 Digital I/O(s)   |
| <b>CIO21A card</b> | 4 Digital I/O(s)<br>2 Analog I/O(s)  |
| <b>CES11A card</b> | <ul style="list-style-type: none"> <li>• HTL 12/24V (Differential)</li> <li>• TTL (Differential)</li> <li>• RS422 (Differential)</li> <li>• SIN/COS 1 Vss (Differential)</li> <li>• HIPERFACE<sup>®</sup> with SIN/COS signal 1 Vss</li> <li>• SEW encoder (RS485) with SIN/COS signal 1 Vss</li> <li>• EnDat 2.1 with SIN/COS signal 1 Vss</li> <li>• SSI encoder with/without SIN/COS signal 1 Vss</li> <li>• CANopen encoder</li> </ul> |

  

| Safety Card                        | Safe inputs                        | Safe outputs | Safe stop functions | Safe movement functions            | Safe positioning functions | Safe communication | Additional multi-encoder input |
|------------------------------------|------------------------------------|--------------|---------------------|------------------------------------|----------------------------|--------------------|--------------------------------|
|                                    | <b>MOVISAFE<sup>®</sup> CSB21A</b> | 4            | –                   | STO, SS1c                          | –                          | –                  | PROFIsafe, FSoE                |
| <b>MOVISAFE<sup>®</sup> CSB31A</b> | 4                                  | 2            | STO, SS1c, SBC      | –                                  | –                          | PROFIsafe, FSoE    | Yes                            |
| <b>MOVISAFE<sup>®</sup> CSS21A</b> | 4                                  | 2            | STO, SS1c, SBC      | SOS, SS1b, SS2, SLS, SSR, SLA, SSM | SLI, SDI                   | PROFIsafe, FSoE    | –                              |
| <b>MOVISAFE<sup>®</sup> CSS31A</b> | 4                                  | 2            | STO, SS1c, SBC      | SOS, SS1b, SS2, SLS, SSR, SLA, SSM | SLI, SDI                   | PROFIsafe, FSoE    | Yes                            |
| <b>MOVISAFE<sup>®</sup> CSA31A</b> | 4                                  | 2            | STO, SS1c, SBC, SBT | SOS, SS1b, SS2, SLS, SSR, SLA, SSM | SLI, SDI, SCA, SLP         | PROFIsafe, FSoE    | Yes                            |

  

|                                |   |
|--------------------------------|---|
| <b>Communication interface</b> | EtherCAT <sup>®</sup> /SBusPLUS   |
| <b>Ambient temperature</b>     | 32 deg Fahrenheit - 113 deg Fahrenheit / 0 deg Celsius - 45 deg Celsius |
| <b>Degree of protection</b>    | IP20 according to EN 60529  |

  

| Dimensions                |               |      |      |               |      |      |               |      |      |               |      |      |               |  |
|---------------------------|---------------|------|------|---------------|------|------|---------------|------|------|---------------|------|------|---------------|--|
| <b>MDP90A...503-4...</b>  | 0100          |      |      | 0100 (1A)     |      |      | 0250          |      | 0500 |               | 0750 |      | 1100          |  |
| Width (mm)                | 60            |      |      | 120           |      |      | 60            |      | 150  |               |      |      | 210           |  |
| Height (mm)               | 324           |      |      |               |      |      | 424           |      |      |               |      |      |               |  |
| Depth (mm)                | 250           |      |      |               |      |      |               |      |      |               |      |      |               |  |
| <b>MDA-...503-X...</b>    | 0020          | 0040 | 0080 | 0120          | 0160 | 0240 | 0320          | 0480 | 0640 | 0640          | 1000 | 1400 | 1800          |  |
| Width (mm)                | 60            |      |      |               | 90   |      |               |      | 120  | 150           |      | 210  |               |  |
| Height (mm)               | 328           |      |      |               |      |      | 428           |      |      |               |      |      |               |  |
| Depth (mm)                | 265           |      |      |               |      |      |               |      |      |               |      |      |               |  |
| <b>MDD9.A-...503-X...</b> | 0020 (Size 1) |      |      | 0040 (Size 1) |      |      | 0020 (Size 2) |      |      | 0040 (Size 2) |      |      | 0080 (Size 2) |  |
| Width (mm)                | 60            |      |      |               |      |      | 90            |      |      |               |      |      |               |  |
| Height (mm)               | 328           |      |      |               |      |      |               |      |      |               |      |      |               |  |
| Depth (mm)                | 265           |      |      |               |      |      |               |      |      |               |      |      |               |  |