


INOVANCE

CS710 Crane Drive

Open & closed loop AC drive

Wide operating voltage
Three-phase 380 to 480 Vac
0.4 to 450 kW

Operation in high ambient
temperature  50°C¹

Enhanced reliability and
longer drive life span:
- Selection of high rated components
- Conformal coating suitable for 3C2
and 3S2 environments



Built-in DC reactor
(400 V: 18.5 kW and above)

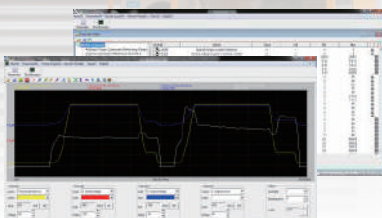


Features & functions

- Open loop V/F & SVC control
- Closed loop FVC control
- Starting torque
 - 150% at 0.25 Hz for SVC
 - 180% at 0 Hz for FVC
- Communication options:
 - Modbus-RTU
 - PROFIBUS-DP
 - CANopen
 - CANlink
 - PROFINET
- Slip compensation
- Simplified parameters for easy start up
- Selectable linear or S-Curve acceleration/deceleration profile
- Flexible programmable I/Os
- User programmable functions
- Variable DC-injection braking
- Comprehensive trip diagnostics
- Built-in dynamic braking unit (up to & including 75 kW)
- Dedicated functions for crane applications:
 - Brake control logic
 - Light load function
 - Electronic motorised potentiometer
 - Overload protection function
 - Pre-excitation function
 - Over travel switches inputs
 - Anti-sway function (customized version)

PC-based
software:
simplified
start up &
backup²

Through-hole mounting
options (0.4 to 160 kW)



¹ Please note: if operating above 40°C, derating is required
² PC comms kit is required (optional accessory)

General specifications

| Voltage class $\text{CE} \text{ } \text{UL}$ | Three-phase 380 to 480 Vac | | | | | | | | | | |
|--|--|--------|-------|-------|-------|-------|-------|-------|-------|------|------|
| Drive model: CS710-4TxxxGx-INT | 0.4GB | 0.75GB | 1.1GB | 1.5GB | 2.2GB | 3.0GB | 3.7GB | 5.5GB | 7.5GB | 11GB | 15GB |
| Frame size | T1 ^{*1} | | | | | | | T2 | T3 | T4 | |
| Drive input | Three-phase 380 to 480 Vac -15% to +10% | | | | | | | | | | |
| | Rated input current [A] | | | | | | | | | | |
| | Rated input frequency | | | | | | | | | | |
| Drive output | 50/60 Hz \pm 5% | | | | | | | | | | |
| | Applicable motor [kW] | | | | | | | | | | |
| | Output current [A] ^{*2} | | | | | | | | | | |
| | Default carrier frequency [kHz] | | | | | | | | | | |
| | Overload capacity | | | | | | | | | | |
| | Max. output voltage | | | | | | | | | | |
| Braking resistor | 150% for 60 s | | | | | | | | | | |
| | Three-phase 380 to 480 Vac (proportional to input voltage) | | | | | | | | | | |
| Braking unit | 150 Hz | | | | | | | | | | |
| | Recommended power [kW] | | | | | | | | | | |
| Enclosure | Minimum resistance [Ω] | | | | | | | | | | |
| | Built-in | | | | | | | | | | |
| IP 20 | | | | | | | | | | | |

| Voltage class $\text{CE} \text{ } \text{UL}$ | Three-phase 380 to 480 Vac | | | | | | | | | | |
|--|--|------|------|------|------|------|--------------|-----|------|------|------|
| Drive model: CS710-4TxxxGx-INT | 18.5GB | 22GB | 30GB | 37GB | 45GB | 55GB | 75GB | 90G | 110G | 132G | 160G |
| Frame size | T5 | | T6 | | T7 | | T8 | | T9 | | |
| Drive input | Three-phase 380 to 480 Vac -15% to +10% | | | | | | | | | | |
| | Rated input current [A] | | | | | | | | | | |
| | Rated input frequency | | | | | | | | | | |
| Drive output | 50/60 Hz \pm 5% | | | | | | | | | | |
| | Applicable motor [kW] | | | | | | | | | | |
| | Output current [A] ^{*2} | | | | | | | | | | |
| | Default carrier frequency [kHz] | | | | | | | | | | |
| | Overload capacity | | | | | | | | | | |
| | Max. output voltage | | | | | | | | | | |
| Braking resistor | 150% for 60 s | | | | | | | | | | |
| | Three-phase 380 to 480 Vac (proportional to input voltage) | | | | | | | | | | |
| Braking unit | 150 Hz | | | | | | | | | | |
| | Recommended power [kW] | | | | | | | | | | |
| Enclosure | Minimum resistance [Ω] | | | | | | | | | | |
| | Built-in | | | | | | MDBUN-200-5T | | | | |
| IP20 | | | | | | | | | | | |

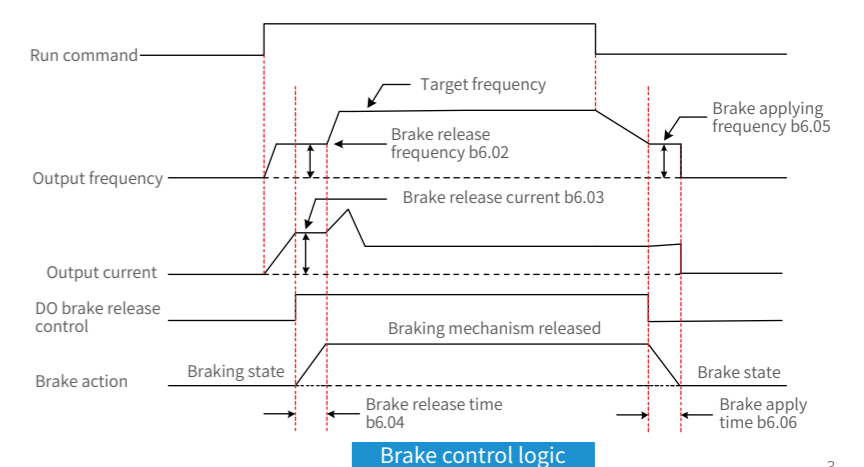
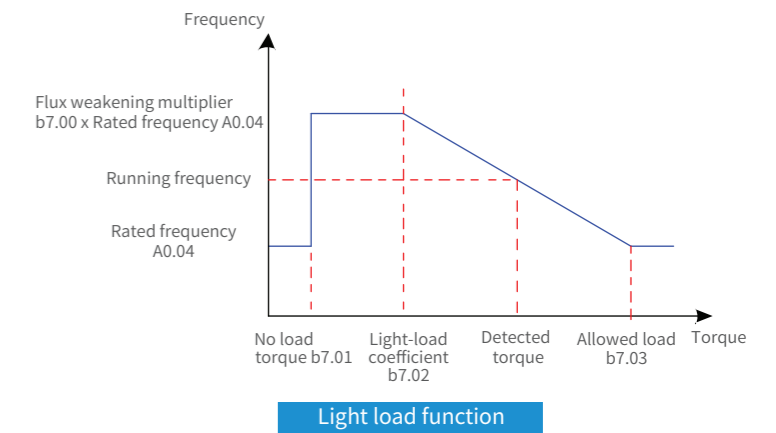
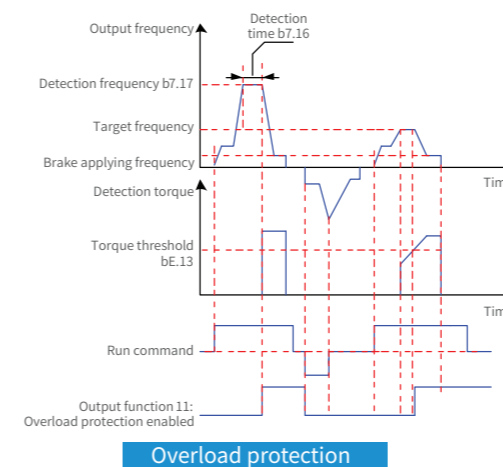
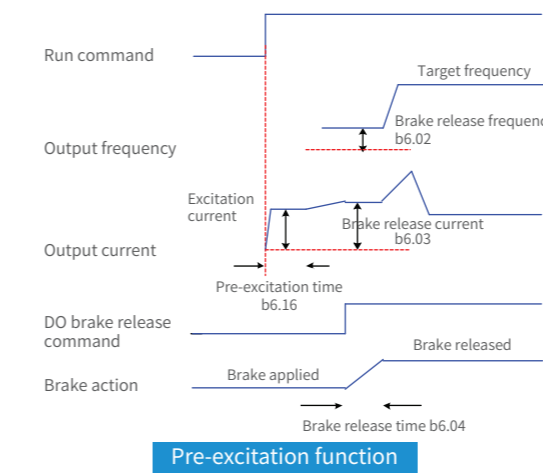
*1 0.75/1.5/2.2/3.7/5.5 kW are the preferred stocking ratings. To learn more, please get in touch with your local Inovance representative.

*2 Rated output current at default carrier frequency.

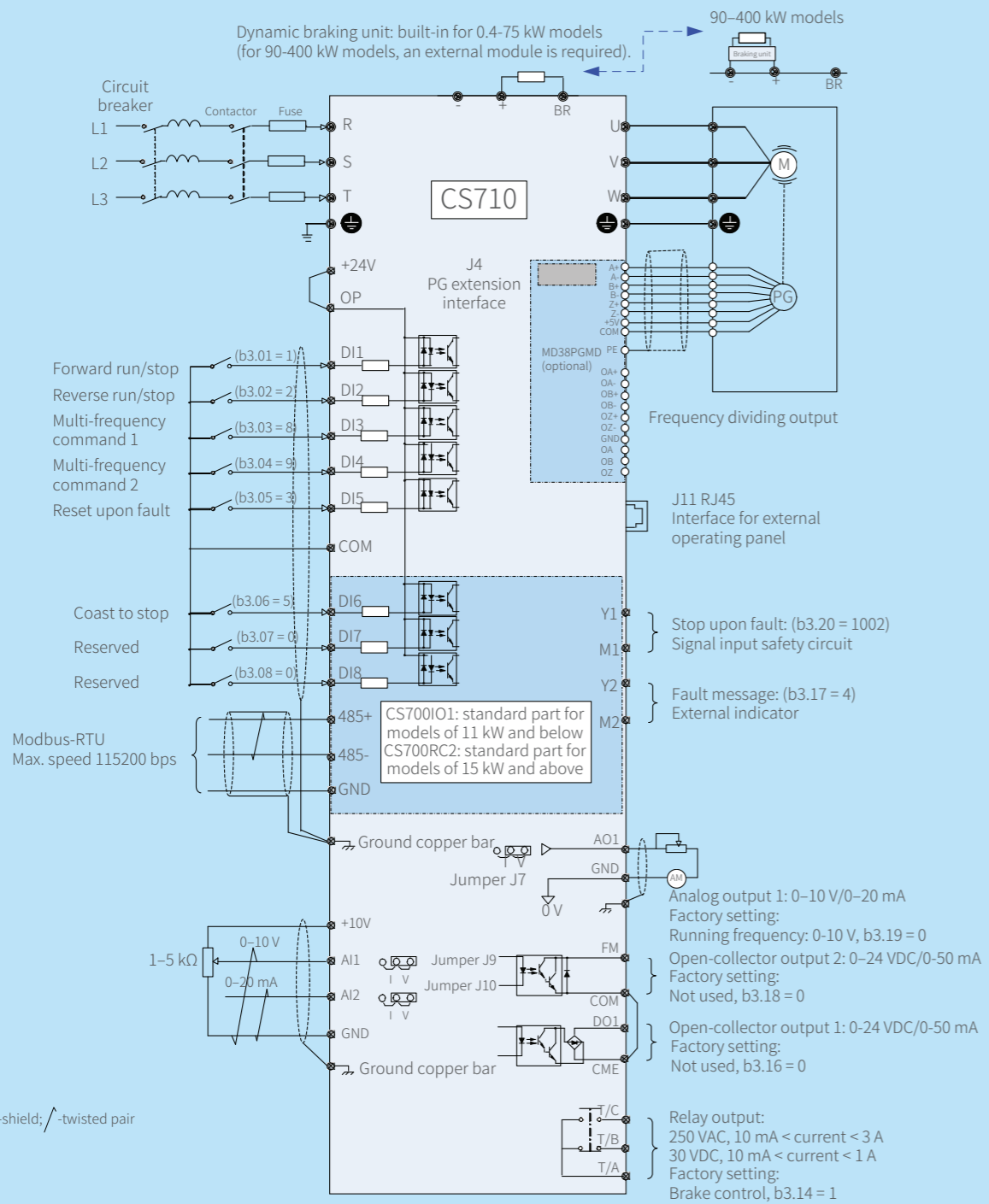
General specifications

| Voltage class $\text{CE} \text{ } \text{UL}$ | Three-phase 380 to 480 Vac | | | | | | |
|--|--|------|------|------|-----------------|------|------|
| Drive model: CS710-4TxxxG-INT ^{*1} | 200G | 220G | 250G | 280G | 315G | 355G | 400G |
| Frame size | T9 | T3 | T11 | T11 | T11 | T12 | T12 |
| Drive input | Three-phase 380 to 480 Vac -15% to +10% | | | | | | |
| | Rated input current [A] | | | | | | |
| | Rated input frequency | | | | | | |
| Drive output | 50/60 Hz \pm 5% | | | | | | |
| | Applicable motor [kW] | | | | | | |
| | Output current [A] ^{*2} | | | | | | |
| | Default carrier frequency [kHz] | | | | | | |
| | Overload capacity | | | | | | |
| | Max. output voltage | | | | | | |
| Braking resistor | 150% for 60 s | | | | | | |
| | Three-phase 380 to 480 Vac (proportional to input voltage) | | | | | | |
| Braking unit | 500 Hz | | | | | | |
| | Recommended power [kW] | | | | | | |
| Enclosure | Minimum resistance [Ω] | | | | | | |
| | MDBUN-200-5T x2 | | | | MDBUN-200-5T x3 | | |
| IP 00 | | | | | | | |

*1 For the standard AC drive, we recommend motor cable lengths to be <100 m. Where your installation exceeds 100 m, the “-L” version is an option with a built-in AC output reactor (1% voltage drop) which can help to overcome the effects of long cable installations. To discuss your application, contact your local Inovance representative.
*2 Rated output current at default carrier frequency.



Typical system connection diagram



Typical applications



Construction hoist



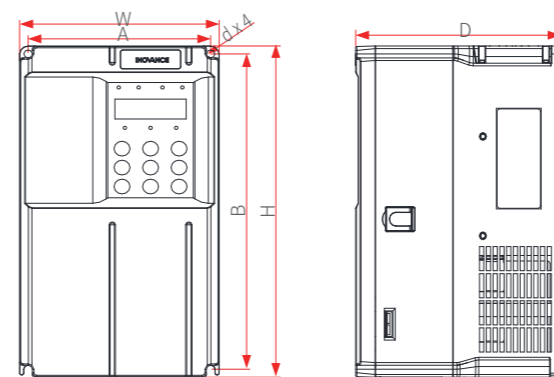
Overhead crane



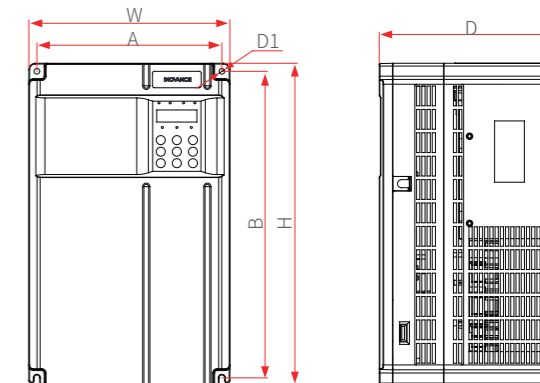
Gantry crane

Dimensions

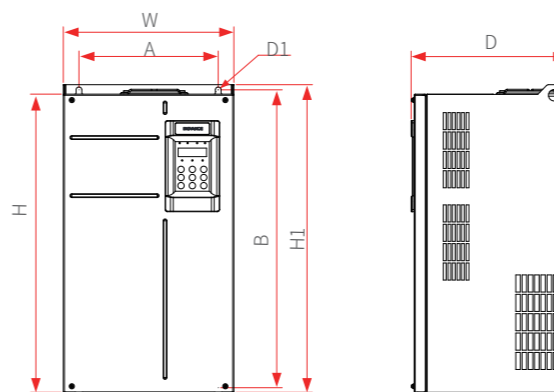
CS710-4T0.4GB to CS710-4T15GB



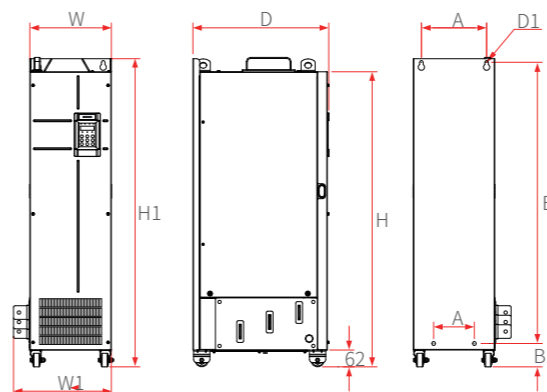
CS710-4T18.5GB to CS710-4T37GB



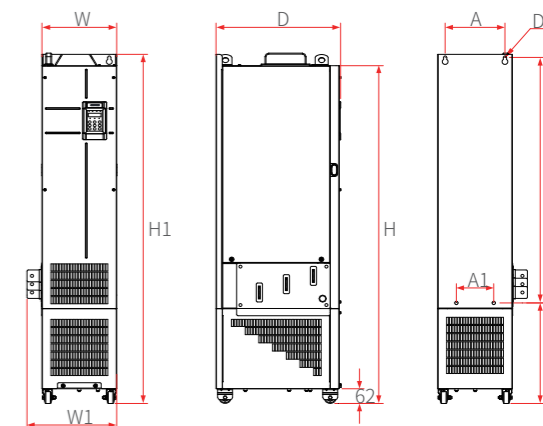
CS710-4T45GB to CS710-4T160G



CS710-4T200G to CS710-4T400G

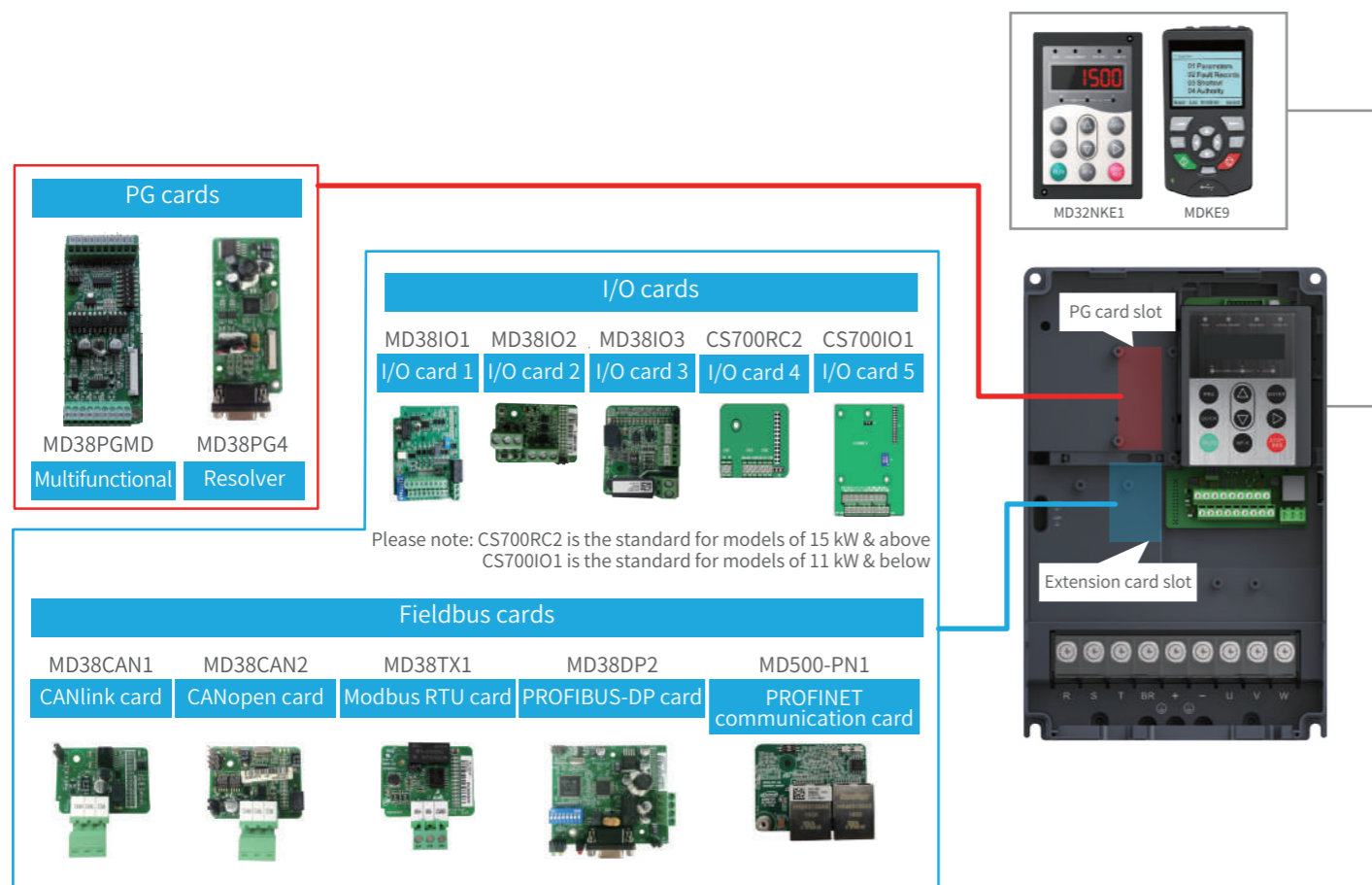


CS710-4T200G-L to CS710-4T400G-L (built-in output reactor)



| CS710 model | Model size | Dimensions (mm) | | | | | | | | | | Mass (kg) |
|--|------------|-----------------|-----|------|-----|------|------|-----|-----|-----|-----|-----------|
| | | A | A1 | B | B1 | H | H1 | W | W1 | D | D1 | |
| CS710-4T0.4GB, CS710-4T0.7GB, CS710-4T1.1GB | T1 | 119 | / | 189 | / | 200 | / | 130 | / | 152 | Ø5 | 1.6 |
| CS710-4T1.5GB, CS710-4T2.2GB, CS710-4T3.0GB | T1 | 119 | / | 189 | / | 200 | / | 130 | / | 152 | Ø5 | 1.6 |
| CS710-4T3.7GB, CS710-4T5.5GB | T1 | 119 | / | 189 | / | 200 | / | 130 | / | 162 | Ø5 | 2.0 |
| CS710-4T7.5GB, CS710-4T11GB | T2 | 128 | / | 238 | / | 250 | / | 140 | / | 170 | Ø6 | 3.3 |
| CS710-4T15GB | T3 | 166 | / | 266 | / | 280 | / | 210 | / | 192 | Ø6 | 3.1 |
| CS710-4118.5GB, CS7104T22GB | T5 | 195 | / | 335 | / | 350 | / | 210 | / | 192 | Ø6 | 9.1 |
| CS710-4T30GB, CS7104T37GB | T6 | 230 | / | 380 | / | 400 | / | 250 | / | 220 | Ø7 | 17.5 |
| CS710-4T45GB, CS7104T55GB | T7 | 245 | / | 523 | / | 525 | 542 | 300 | / | 275 | Ø10 | 35 |
| CS710-4T75GB, CS7104T90G, CS7104T110G | T8 | 270 | / | 560 | / | 554 | 580 | 338 | / | 315 | Ø10 | 51.5 |
| CS710-4T132G, CS7104T160G | T9 | 320 | / | 890 | / | 874 | 915 | 400 | / | 320 | Ø10 | 85 |
| CS710-4T200G, CS7104T220G | T10 | 240 | 150 | 1035 | 86 | 1086 | 1134 | 300 | 360 | 500 | Ø13 | 110 |
| CS710-4T200G-L, CS7104T220G-L | | 240 | 150 | 1035 | 424 | 1424 | 1472 | 300 | 360 | 500 | Ø13 | 160 |
| CS710-4T200G, CS7104T280G | T11 | 225 | 185 | 1175 | 97 | 1248 | 1248 | 330 | 390 | 545 | Ø13 | 155 |
| CS710-4T250G-L, CS7104T280G-L | | 225 | 185 | 1175 | 437 | 1586 | 1622 | 330 | 390 | 545 | Ø13 | 215 |
| CS710-4T315G, CS7104T355G, CS7104T400G, CS710-4T400G | T12 | 240 | 200 | 1280 | 101 | 1255 | 1405 | 340 | 400 | 545 | Ø16 | 185 |
| CS710-4T31G-L, CS7104T355G-L, CS710-4T400G-L | | 240 | 200 | 1280 | 432 | 1683 | 1733 | 340 | 400 | 545 | Ø16 | 245 |

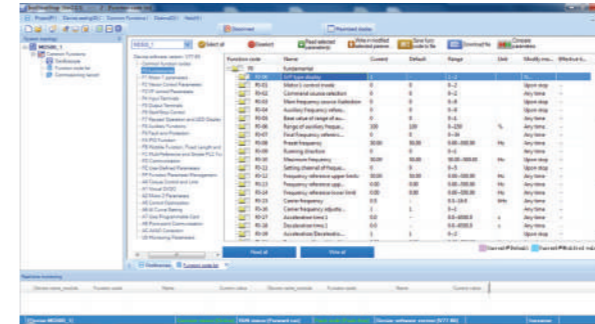
Extension cards and mounting position



PC software tools

InoDriveShop

InoDriveShop is Inovance's PC-based software offering. It is based on a familiar Windows interface. InoDriveShop can upload and download drive parameters, and features a variety of other functions, such as a real-time oscilloscope



Parameter uploading/downloading



Multi-drive, multi-channel oscilloscope

Accessories list

| Category | Model | Function description | Suitable for |
|------------------------|-----------------|---|--|
| External braking units | MDBUN-60-2T | External braking unit, rated current 60 A, for supply input voltage 200 to 240 Vac AC drives. | 2T models: 45G - 55G |
| | MDBUN-200-5T | External braking unit, rated current 200 A, for supply input voltage 380 to 480 Vac AC drives. | T models: 200G - 450G |
| | MDBUN-60-5T | External braking unit, rated current 60 A, for supply input voltage 380 to 480 Vac AC drives. | T models: 90G - 110G |
| | MDBUN-90-5T | External braking unit, rated current 90 A, for supply input voltage 380 to 480 Vac AC drives. | T models: 132G - 160G |
| Keypads | MD32NKE1 | Remote LED keypad. Includes MDCAB cable. | All |
| | MDKE9 | Remote LCD keypad. For parameter programming and monitoring, data copy (for various MD series). Includes MDCAB cable. | All |
| | MDCAB | 3 meter connecting cable for remote keypad (spare unit). | All |
| | MDCAB-1.5 | 1.5 meter connecting cable for remote keypad (spare unit). | All |
| | I/O cards | MD38IO1 | I/O extension card 1, provides: 5x DI, 1x AI, 1x relay output, 1x DO, 1x AO, Modbus-RTU and CANlink. |
| MD38IO2 | | I/O extension card 2, provides 3x extra DI terminals. | All |
| MD38IO3 | | I/O extension card 3, provides 3x DI, 1x relay output, Modbus-RTU interface. | All |
| CS700RC2 | | Crane dedicated I/O extension card, provides 3x DI, 3x relay output, 1 RS485 Modbus-RTU interface. | Included as standard for models of 15 kW and above |
| CS700IO1 | | Crane dedicated I/O extension card, provides 2x DI, 1x relay output, 1 RS485 Modbus-RTU interface. | Included as standard for models of 11 kW and below |
| Fieldbus | MD38CAN1 | CANlink bus card, supports only CANlink. | All |
| | MD38CAN2 | CANopen bus card, supports only CANopen. | All |
| | MD38TX1 | Modbus-RTU communication card. | All |
| | MD38DP2 | PROFIBUS-DP communication card. | Frame sizes T4-T12 |
| | MD500-PN1 | PROFINET communication card. | All |
| PG cards | MD38PG4 | Interface card for resolver (10 kHz excitation) with DB9 connector. | All |
| | MD38PGMD | Multifunctional encoder card, compatible with differential, open-collector and push-pull encoder types. Supports differential output and open-collector output. | All |
| PC comms kit | MDPCKIT02 | PC comms kit. | All |
| Mounting brackets | MD500-AZJ-A1T1 | Through hole mounting bracket - MD290/MD500 for frame T1. | Frame size T1 |
| | MD500-AZJ-A1T2 | Through hole mounting bracket - MD290/MD500 for frame T2. | Frame size T2 |
| | MD500-AZJ-A1T3 | Through hole mounting bracket - MD290/MD500 for frame T3. | Frame size T3 |
| | MD500-AZJ-A1T4 | Through hole mounting bracket - MD290/MD500 for frame T4. | Frame size T4 |
| | MD500-AZJ-A1T5 | Through hole mounting bracket - MD290/MD500 for frame T5. | Frame size T5 |
| | MD500-AZJ-A1T6 | Through hole mounting bracket - MD290/MD500 for frame T6. | Frame size T6 |
| | MD500-AZJ-A1T7 | Through hole mounting bracket - MD290/MD500 for frame T7. | Frame size T7 |
| | MD500-AZJ-A1T8 | Through hole mounting bracket - MD290/MD500 for frame T8. | Frame size T8 |
| | MD500-AZJ-A1T9 | Through hole mounting bracket - MD290/MD500 for frame T9. | Frame size T9 |
| Guide rails | MD500-AZJ-A3T10 | Guide rails for inserting in/ extracting from the cabinet - frame sizes T10 to T12. | Frame sizes T10-T12 |

Driven by Technology

AC Drives



AC MultiDrives



MV Drives



Single-Axis Servos



Multi-Axis Servos



Robotics & Motion Controllers



PLCs & HMIs



CNC Machine Tool Solutions



Elevator Drives

