I/O Connections

The I/O connections of the DCV 700 are in the Application Controller (APC) and in the Digital Drive Controller (DDC).

The Application Controller APC includes:
- 4 digital inputs
- 2 digital outputs
- 2 analogue inputs
- 1 voltage reference output

The I/O connections in the Drive Controller DDC are used for safety and other drive specific functions like emergency stop and motor temperature measurement:
- 3 digital inputs
- 4 digital outputs
- 5 analogue inputs
- 2 analogue outputs
- 1 pulse encoder input
- 1 emergency stop input
- 1 emergency stop output
- 1 current source
- 1 voltage reference output
- 1 actual armature current output

Optional I/O boards are available to provide tailored solutions for the most demanding applications.

The quantity of I/Os can be increased by using extended I/O board and speed measurement board.

Extended / Remote I/O Board YPQ110A
Connection to the APC can either be through parallel bus (extended) or through low speed serial bus (remote).
- 8 digital inputs
- 8 digital outputs
- 4 analogue inputs
- 2 analogue outputs
- 3 voltage reference outputs

Speed Measurement Board YPH107A
The board can be used for accurate speed and position measurement. Connection to the APC is through the parallel bus. For positioning there is a 32 bit hardware counter.
- 1 digital input for synchronisation
- 1 pulse encoder input
- 2 analogue outputs

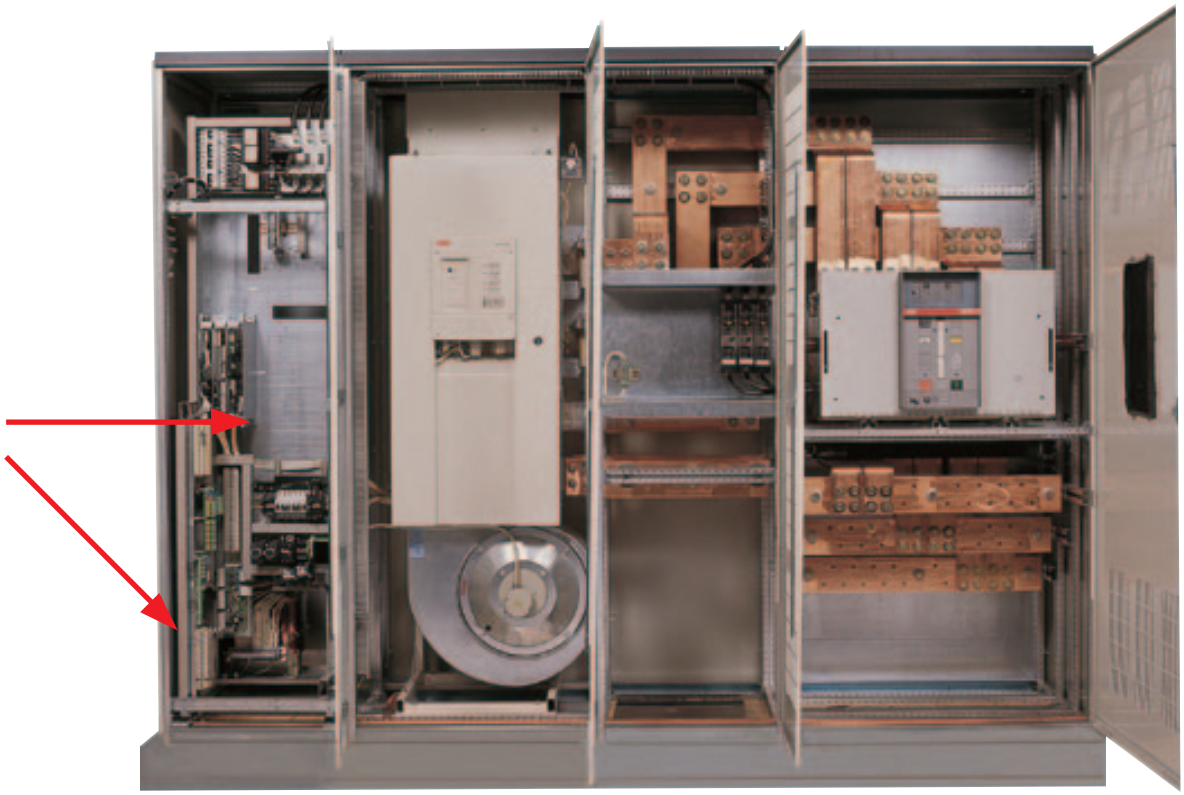

Figure 4. The 5150 A DC converter with air circuit breaker.

Technical Data

Optional I/O Connections

Extended/Remote I/O board YPQ110A

8 digital inputs	Opto isolated inputs, control voltage 110 VAC/ 24 VDC. Hardware delay 2 ms. Digital filter time constants from 0.5 ms to 128 ms in 0.5 ms steps. Input impedance 3 kΩ for 24 VDC and 13 kΩ for 110 VAC.
8 digital outputs	6 relay outputs, normally open contacts. Max. voltage 230 VAC, max. current 2 A at 230 VAC, min. switching time 20 ms. 2 opto isolated transistor outputs. Max. voltage 60 V DC, max. current 100 mA, min. switching time 100 µs.
4 analogue inputs	Differential inputs, resolution 12 bits+sign. Input ranges -10 to +10 V or -20 to +20 mA (0 to +10 V, 0 to +1 V and 0/4 to 20 mA by software scaling), input impedance is 400 kΩ. Accuracy ± 0.1 % at ± 10 V and ± 0.4 % at ± 1 V. Hardware filter time constant 5 ms. Digital filter time constants from 5 ms to 32 s in 1 ms steps.
2 analogue outputs	Output voltage -10 to +10 V, output current -10 to +10 mA. Resolution 12 bits+sign, accuracy ± 0.1 %.
3 voltage reference outputs	+10 V voltage reference, accuracy ± 1 mV. Max. load current 10 mA. -10 V voltage reference, accuracy ± 5 mV. Max. load current 10 mA. 5 mA current reference, accuracy ± 0.05 mA. Max. load resistance 1 kΩ.

Extended, connection through parallel bus: max. 4 boards.
Remote, connection through low speed serial bus: max. 8 nodes.

Speed measurement board YPH107A

1 digital input for synchronisation	Control voltage 24 V AC/DC or 110 V AC/DC. Input impedance 3 kΩ at 24 V and 13 kΩ at 110 V. Hardware delay 1 ms or 10 ms, software adjustable.
1 pulse encoder input	3 opto isolated channels (A, B and Z), differential or single ended tachometers. ± 13 mA current input or ± 24 V voltage input. Max. input frequency 300 kHz.
2 analogue outputs	Output voltage ± 10 V, output current ± 10 mA. Resolution 12 bits, accuracy ± 1 %.

Connection through parallel bus.

The technical data and dimensions are valid at the time of printing. We reserve the right to subsequent alterations.