MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

ABB

DSQC236G YB560103-CD

ROBOT SERVO POWER UNIT

Used with the applicable ABB S3 / IRB6000 configuration.

REFERENCE PACKAGE

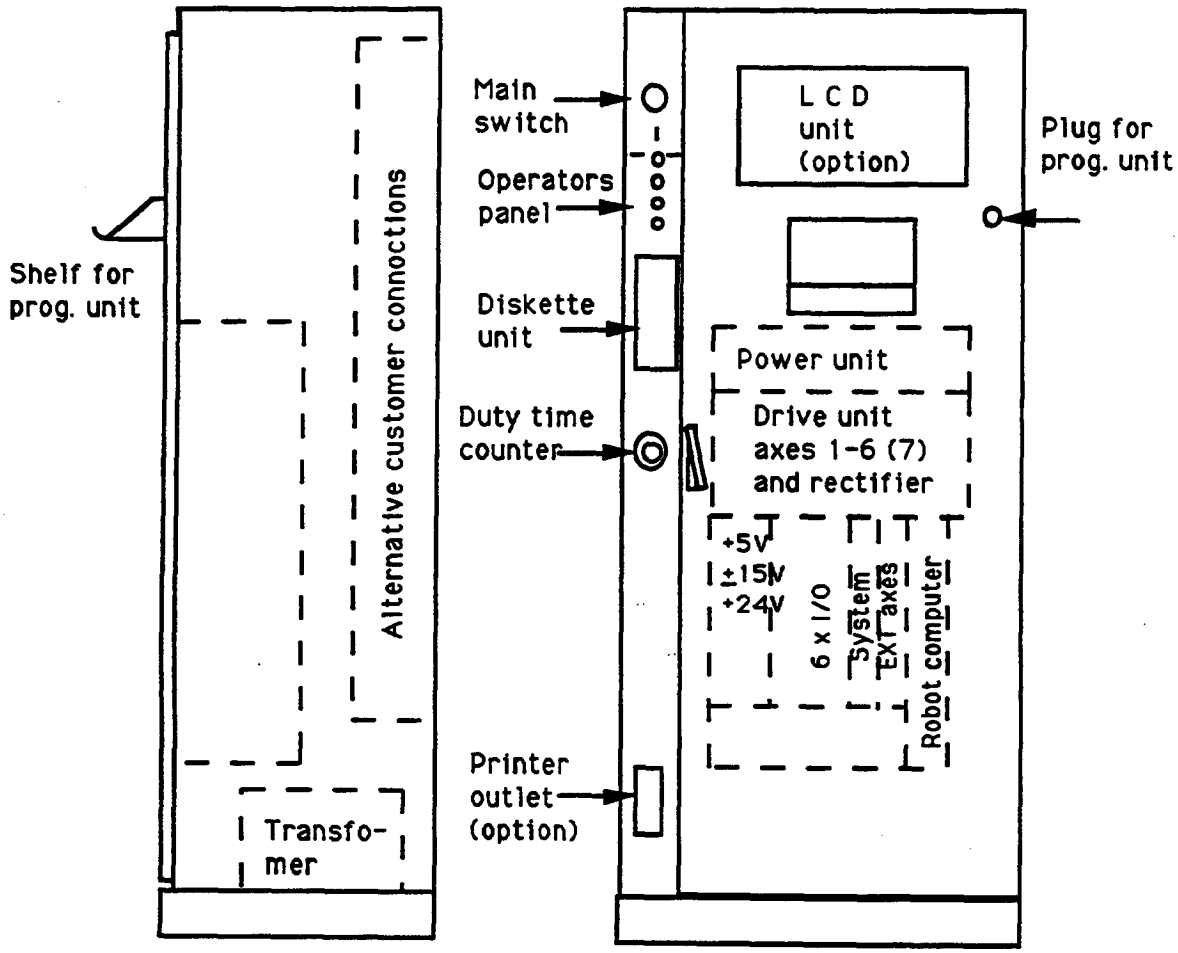
OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: ABB ABB-S3-Service

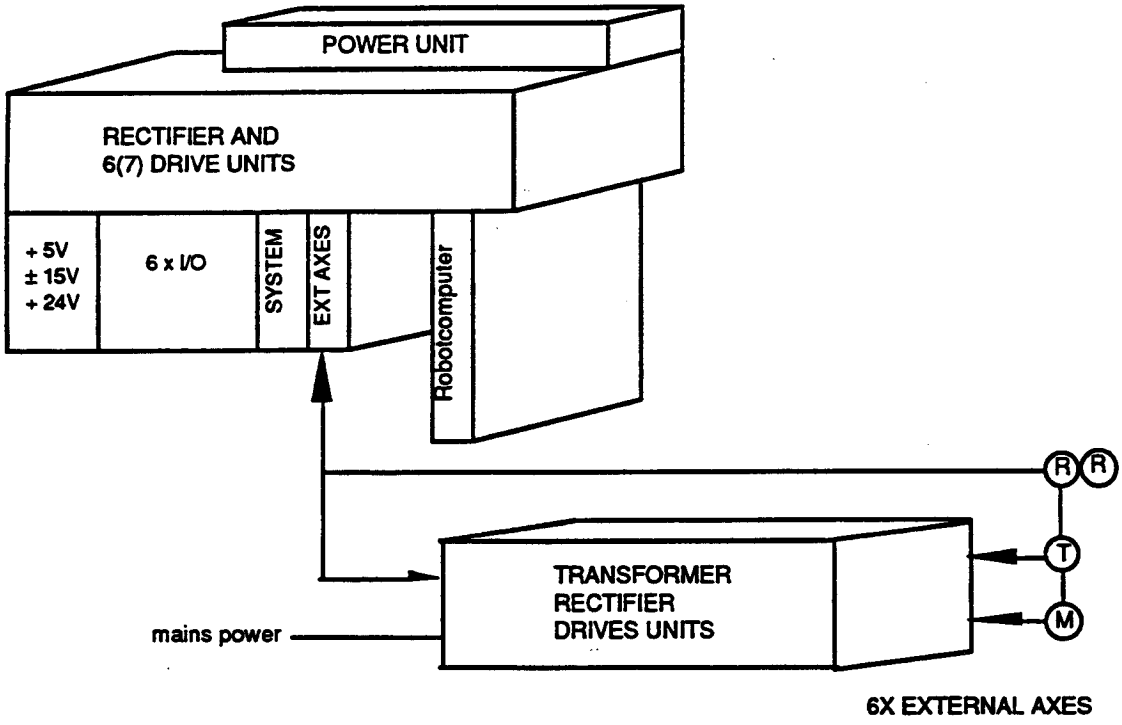
The control cabinet consists of a number of units:

The figure below shows the location of the different units in the control cabinet:



2.1.3
The electronics unit

All control and supervision electronics are assembled in the pivoting frame work, with the exception of the serial measurement board, which is mounted inside the mechanical unit.



The electronics unit consists of the following sub-units:

- Robot computer, containing:
  - Main computer
  - I/O computer
  - Servo computer
  - Axis computer
  - Current reference outputs
  - RWM for robot program
  - PD-bus, three RS 232 C units and disk drive.
- Board for external axes connections
- System board containing logic for supervision of the run chains
- Digital I/O boards
- Combined I/O board
- Analog I/O board
- Voltage supply unit
- Drive units
- Rectifier unit including drive fuses
- Serial measurement board (on the manipulator)

Drive unit

The drive unit is a current amplifier for torque control of the robots permanently magnetized synchronous motors. It is built on a circuit board which contains both control circuits and power circuits.
A two-phase current reference is used for control of the control function. The drive unit is supplied with a d.c. voltage of 340 V.

Rectifier unit

The rectifier, a three-phase six pulse diode rectifier, supplies the drive units for the motors of the robot.
A 242 V three-phase a.c. voltage is rectified to 340 V with a diode bridge.

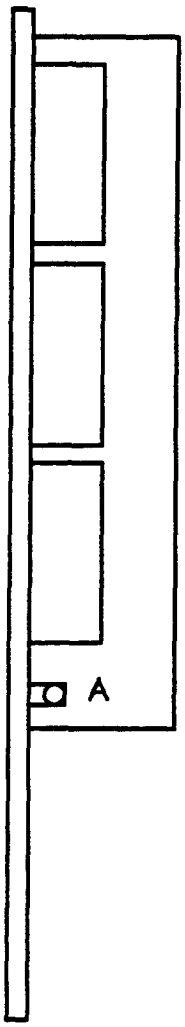
The rectifier contains control electronics for overvoltage supervision, main voltage supervision, temperature supervision of the rectifirer bridge and shunt regulator.

Seriel measurement board (on manipulator)

The board is used for collecting resolver data from max 6 resolvers. The board supervise the feed back from the resolvers and generates from that, information about which resolver turn the resolver is having.
The board is supplied with +24 V (DC). To keep the information about the resolver turns in the memory when main power is disconnected, the memory has battery back-up.

4.5.8
Drive unit DSQC 236 A / B / C / G / T / P

Description	Source of fault (with incorrect test value or fault indication)
A: Red LED illuminates with malfunction	Control fault in one or two phases. Interrupt in the motor circuit No sinus wave distributed references Fault in the control system Over-current caused by a shortcircuit Shortcircuit in motor or wiring Over temperature Damage servo or faulty load cycle



Drive unit, IRB 3200

Pos	Qty	Description	Art. no	Comments.
AP1,2,3	3	DSQC 236 C	YB 560 103-CC	Servo power unit, axes 1, 2, 3
AP4	1	DSQC 236 B	YB 560 103-CB	Servo power unit, axis 4
AP5,6	2	DSQC 236 A	YB 560 103-CA	Servo power unit, axes 5, 6
AP7	1	DSQC 236 C	YB 560 103-CC	Servo power unit, axis 7(option)
AP9	1	DSQC 249A	3HAA 3563-AGA	Rectifier
AP10	1	DSQC 255	3HAA 3563-ARA	Rear plane

Drive unit, IRB 6000

Pos	Qty	Description	Art. no	Comments.
AP1,2,3	3	DSQC 236 T	YB 560 103-CE	Servo power unit, axes 1,2,3
AP4,5,6	3	DSQC 236 G	YB 560 103-CD	Servo power unit, axes 4-6
AP7	1	DSQC 236 T	YB 560 103-CE	Servo power unit, axis 7(option)
AP9	1	DSQC 249 B	3HAA 3563-AHA	Rectifier
AP10	1	DSQC 255	3HAA 3563-ARA	Rear plane
EV1,2,3	3	Fan	6480 096-5	24V DC
R1,2	2	Connecting up resistance	5245 2063-210	10 ohm, 50W