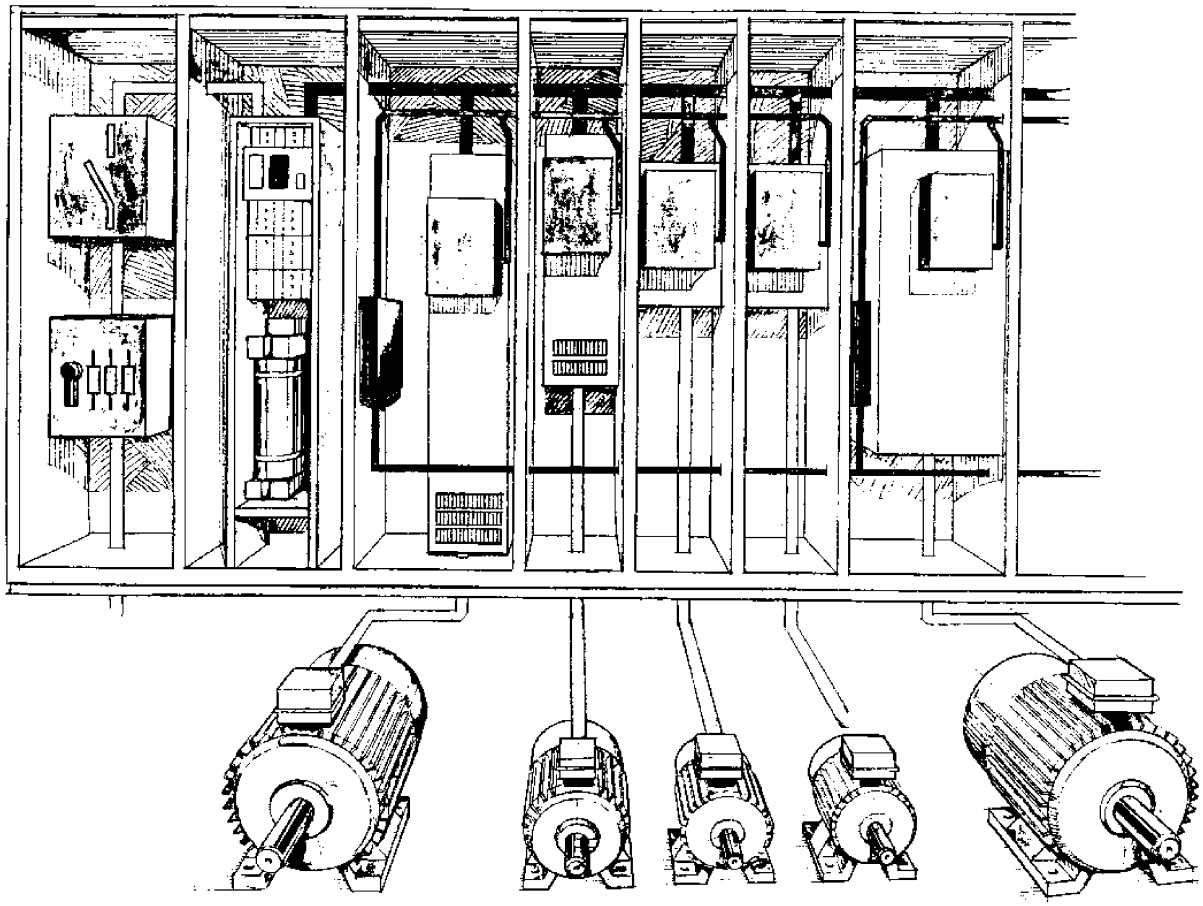
ACV 700

Hardware Manual

ACV 700 Frequency Converters



PC Board SNAT 606 CMT or SNAT 608 CMT for the DDCTool

Code: 3AFE 61010793 PC board only
Code: 3AFE 61041508 Complete DDCTool package

The SNAT 606 CMT or SNAT 608 CMT board for the DDCTool is slid in a free board slot in a personal computer. One pair of optical fibres are led from the SNAT 606/608 CMT board to the SNAT 609 TAI board.

If the distance between the SNAT 606/608 CMT board and the SNAT 609 TAI is less than 15 m with standard attenuation cable, the fibres can be plastic. If the distance is longer, for up to 25 m an extra low attenuation cable can be used. For longer distances glass fibres must be used.

The SNAT 606/608 CMT has connectors for both plastic and glass fibres.

The **SNAT 606 CMT** board uses I/O address range **600H...701H**. If you have other option boards which use these I/O addresses, you should try to reconfigure them because SNAT 606 CMT can only use these I/O addresses.

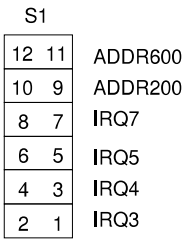


Figure 2 - 12 Jumpers of SNAT 606 CMT on S1.

On **SNAT 608 CMT**, the beginning of the I/O address range is selected by one jumper on S1 pins **9-10...19-20.** Six settings are possible. The board reserves eight I/O addresses from the beginning of the selected I/O address range. If you change the default I/O address range setting (**19-20**) then you must write down the I/O address you selected. It is needed when you start to use the DDCTool program (see Chapter *Installing the DDCTool Software* and *Appendix 1* in the DDCTool User's Manual).

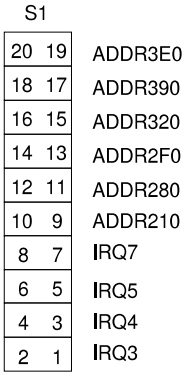


Figure 2 - 13 Jumpers of SNAT 608 CMT on S1.

When you have selected the correct settings of the S1 jumpers, you can install the DDCTool board into your PC. Follow carefully the instructions in your PC manual for installation of option boards.

If you do not know how to install option boards into your PC, consult a service technician.

Unplug the power cord of the PC. Open the cover of the PC. Insert the DDCTool board into a vacant bus slot (ISA-bus) of the PC. Close the cover of the PC.

Optic Distributor Board YPC 111A

Code: 3AFE 61004955 Incl. metal box

This board is used to distribute the TC link information from the APC to up to four inverters. It can also be used with the DDCTool.

The board needs an external 24 VDC power supply that can vary in the range 19 - 30 VDC. Power consumption is 1.9 VA (80 mA at 24 VDC).

Max. length of the fibre is 15 m with standard attenuation cable (Hewlett-Packard HFBR-R or equivalent) and 25 m with extra low attenuation cable (Hewlett-Packard HFBR-E or equivalent).

Dimensions of the metal box are (w x h x d) 155 x 40 x 72 mm.

External connections	Function
Power input	+ 24 VDC to X1:1, common to X1:2.
Signal input	Optical fibre from APC to V1, Optical fibre to APC from V2.
Signal outputs 4 pairs	Optical fibres to drives from Vx. Optical fibres from drives to Vx (x = drive number 1 to 4).

Optic Distributor for DDCTool YPC 115 A

Code: 3AFE 61037454 Incl. metal box

The optic link can be divided into several drives by using optic distributors YPC 111A for plastic fibre and YPC 115A for glass fibre.

Since the SNAT 609 TAI board has only plastic fibre connectors and if glass fibre must be used due to the distance, a YPC 115A must be used near the TAI board, even if the optic link is not distributed to other drives.

The board needs an external 24 VDC power supply that can vary in the range 19 - 30 VDC. Power consumption is 1.9 VA (80 mA at 24 VDC).

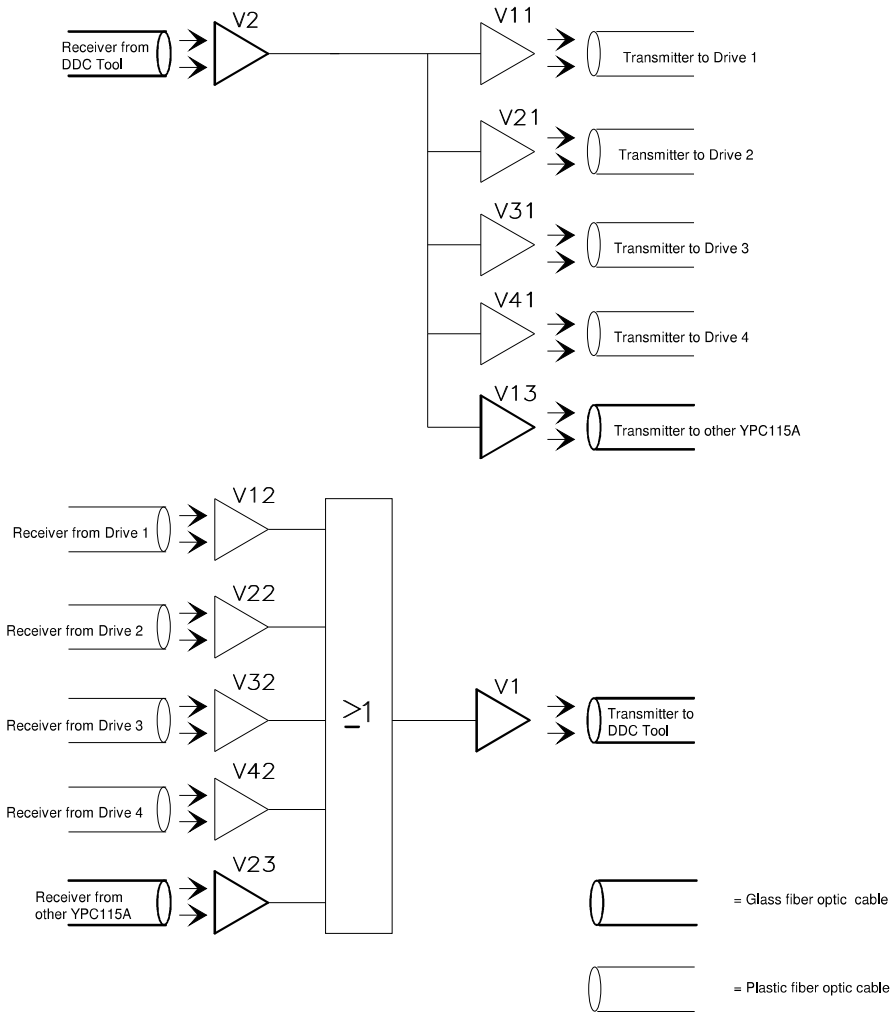


Figure 2 - 14 Description of YPC115A Optic Distributor (pakk115.drw)

Digital Drive Controller, DDC

The standard control functions of the drive section are located in the Digital Drive Controller DDC. DDC uses the TC-link protocol and includes torque and speed control loops, internal start/stop logic, power stage, motor and cable protection, internal fault diagnostics, and trend logging.

Board id	Type Designation	Name of the Board
A1	SNAT 603 CNT	Motor Control Board
A1.1	SNAT 609 TAI	Tacho & I/O Interface
A2	SNAT 7261 INT	Main Circuit Interface (IGBT)
A2	SNAT 607 MCI	Main Circuit Interface (GTO)
A2.1	SNAT XXXV SCL (IGBT) SNAT XXXX-VB SCL (GTO)	Matching Board (where xxx=output power from the converter type code and v=voltage class
A3	SAFT 11_ POW	Auxiliary Voltage Source (GTO)
A4...A6	SNAT xyz PTR	IGBT Protection Board (where xyz = output power from the converter type code) (IGBT)
A4...A6	SNAT 63_ PAC	Pulse Amplifier Board (GTO)
A7	SNAT 617 CHC	Chopper Control Board (GTO)
A8	SNAT 620 PCB	Parallel Connection Board for parallel inverters (GTO)
A9	SNAT 604 IFS	Inhibition of False Start Relay Board (IGBT)
A10	SNAT 602 TAC	Terminal Block Board

Following tables show which boards are included in each inverter.

IGBT Electronic Boards for 400V (380, 415V) Units										
Output Power→	9	16	25	50	70	100	150	215	270	330
Board↓										
SNAT 603 CNT	X	X	X	X	X	X	X	X	X	X
SNAT 609 TAI	X	X	X	X	X	X	X	X	X	X
SNAT 7261 INT	X	X	X	X	X	X	X	X	X	X
SNAT XXXV SCL	X	X	X	X	X	X	X	X	X	X
SNAT xyz PTR	X	X	X	X						
SNAT 604 IFS	X	X	X	X	X	X	X	X	X	X
SNAT 602 TAC	X	X	X	X	X	X	X	X	X	X

IGBT Electronic Boards for 500V (440, 460V) Units										
Power→	10	20	32	56	100	115	170	260	315	400
Board↓										
SNAT 603 CNT	X	X	X	X	X	X	X	X	X	X
SNAT 609 TAI	X	X	X	X	X	X	X	X	X	X
SNAT 7261 INT	X	X	X	X	X	X	X	X	X	X
SNAT xxxv SCL	X	X	X	X	X	X	X	X	X	X
SNAT xyz PTR	X	X	X	X						
SNAT 604 IFS	X	X	X	X	X	X	X	X	X	X
SNAT 602 TAC	X	X	X	X	X	X	X	X	X	X

GTO Electronic Boards for 400V (380, 415V) Units						
Output Power→	400	500	640	800	1210	1600
Board↓	R2	R3	R3	R4	2R3	2R4
SNAT 603 CNT	X	X	X	X	X M	X M
SNAT 609 TAI	X	X	X	X	X M	X M
SNAT 607 MCI	X	X	X	X	2X	2X
SNAT XXXX-VB SCL	X	X	X	X	2X	2X
SAFT 110 POW	X			X		2X
SAFT 111 POW		X	X	X	2X	2X
SNAT 632 PAC	3X					
SNAT 633 PAC		3X	3X		6X	
SNAT 634 PACC				3X		6X
SNAT 617 CHC	X	X	X	X	2X	2X
SNAT 620 PCB					XM	XM
SNAT 602 TAC	X	X	X	X	XM	XM

2X = 2 pc XM = 1 pc in Master

GTO Electronic Boards for 500V (440, 460V) Units						
Output Power→	500	630	790	1000	1510	2000
Board↓	R2	R3	R3	R4	2R3	2R4
SNAT 603 CNT	X	X	X	X	X M	X M
SNAT 609 TAI	X	X	X	X	X M	X M
SNAT 607 MCI	X	X	X	X	2X	2X
SNAT XXXX-VB SCL	X	X	X	X	2X	2X
SAFT 110 POW	X			X		2X
SAFT 111 POW		X	X	X	2X	2X
SNAT 632 PAC	3X					
SNAT 633 PAC		3X	3X		6X	
SNAT 634 PACC				3X		6X
SNAT 617 CHC	X	X	X	X	2X	2X
SNAT 620 PCB					XM	XM
SNAT 602 TAC	X	X	X	X	XM	XM

2X = 2 pc XM = 1 pc in Master

GTO Electronic Boards for 690V (575, 660V) Units													
Output Power→	40	100	160	260	315	420	500	630	800	1040	1370	2000	2500
Board↓	RG1	RG1	RG1	RG1	RG1	RG1	RG2	RG2	RG3	RG3	RG4	2RG3	2RG4
SNAT 603 CNT	X	X	X	X	X	X	X	X	X	X	X	XM	XM
SNAT 609 TAI	X	X	X	X	X	X	X	X	X	X	X	XM	XM
SNAT 607 MCI	X	X	X	X	X	X	X	X	X	X	X	2X	2X
SNAT XXXX-VB SCL	X	X	X	X	X	X	X	X	X	X	X	2X	2X
SAFT 112 POW	X	X	X	X	X	X	X	X			X		2X
SAFT 113 POW									X	X	X	2X	2X
SNAT 630 PAC	3X	3X	3X	3X									
SNAT 631 PAC					3X	3X							
SNAT 632 PAC							3X	3X					
SNAT 633 PAC									3X	3X		6X	
SNAT 634 PACC											3X		6X
SNAT 617 CHC	X	X	X	X	X	X	X	X	X	X	X	2X	2X
SNAT 620 PCB												XM	XM
SNAT 602 TAC	X	X	X	X	X	X	X	X	X	X	X	XM	XM

2X = 2 pc XM = 1 pc in Master