

Technical Information

TI 33K01B10-50E

A Guide for Upgrading
CENTUM V and CENTUM-XL
to CENTUM VP (for Vnet/IP)



[Release 5]

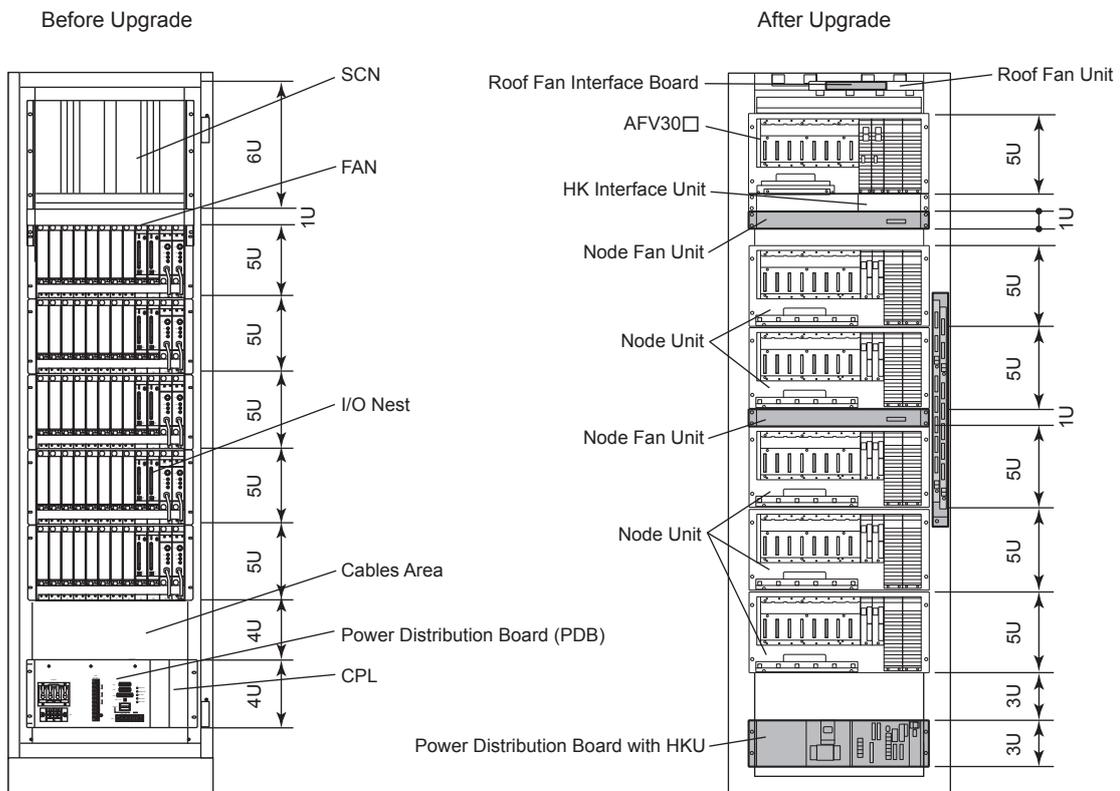
4.4.2 On-site Modification

FCS

Follow these steps to upgrade an FCS of the CENTUM XL system by using the ACUKT2:

1. Remove the front door of the FCS cabinet.
2. Confirm the destination of cables for the SCN, fan, and I/O nest. Then disconnect the cables.
3. Remove the SCN, fans, and I/O nests in turn from upper to lower.
4. Remove the cable that connects the CPL (coupler) of the HF bus to the existing SCN because it will be not used any more.
5. Removed the CPL and PDB (Power Distribution Board).
6. Replace the existing Power Distribution Board with HKU, Roof Fan Interface Board, SC Interface Board, DC-power Distribution Board and Primary Power Distribution Unit with the new ones.
7. Mount the FCU, Node Unit and Node Fan.
8. Connect the cables around the FCU and Power Distribution Board.
9. Connect the cables for the fans and node units.
10. Connect the Vnet/IP cable.
11. Put back the front door of the FCS cabinet.

The following figure shows the front side of the FCS beofre and after the hardware upgrade.



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Figure Front side of the FCS before and after hardware upgrade

4.4.3 Upgrading the Existing I/O Card Unit

Upgrade of the existing I/O card unit shall be carried out into the I/O modules as shown below.

Table I/O modules after upgrade

Model of existing I/O cards & multiplexer cards	Model of I/O modules for Upgrade	KS interface adapter
MAC2 (Analog input/output: 8 points each)	AAB841	ATM4A
PAC (Pulse train input: 8 points; Analog output: 8 points)	AAP849	—
VM1 (Analog input: 16 points)	AAV141	ATK4A
VM2 (Analog input 8 points, Analog output 8 points)	AAB841	ATV4A
VM4 (Analog output: 16 points)	AAV542	ATK4A
PM1 (Pulse train input: 16 points)	AAP149	—
ST2 (DI: 16 points; DO: 16 points)	ADV859(*1)	—
ST3 (DI, 32 points)	ADV159(*1)	—
ST4 (DO, 32 points)	ADV559(*1)	—
ST5 (DI: 32 points; DO: 32 points)	ADV869(*1)	—
ST6 (DI, 64 points)	ADV169(*1)	—
ST7 (DO, 64 points)	ADV569(*1)	—
PB5 (Multi-point pushbutton input)	ADV159	—
RS4 (RS-232C communication card)	ALR111 (Cable also must be changed)	—
MX2 (Non-isolated, mV, TC, 32 points)	AAT145 (2 modules)	—
MX3 (Isolated, mV, TC, 16 points)	AAT145	—
MX4 (Non-isolated, voltage, 32 points)	AAV142 (2 modules)	ATK4A
MX5 (Isolated, voltage, 16 points) (AAV142, non-isolated)	(AAV142, non-isolated)	ATK4A
MX6 (RTD, 32 points)	AAR145 (2 modules)	—
MAC3 (Analog input/Output: 8 points each, for power supply)	(*2)	—
PB6 (Multi-point push button input, 16 points)	ADV159	—
LD1 (Loop display interface card, CLDU ~ MAC2)	(*3)	—
LCU (Loop communication card, ULDU: 4 units)	(*3) (*4)	—
LCS (Loop communication card, YS80: 8 units)	ALR121(*5)	—

*1: In the CENTUM VP, the input/output type is specified for each terminal (i.e., point) of a contact input/output module; an output type setting for an odd terminal may take effect on the next even terminal. For details, see GS 33K50F70-50E for Digital I/O Modules (for FIO).

*2: Simply updating to AAB841 is not enough for this setup. Interactive operation with a manual station is necessary.

*3: CLDU and ULDU cannot be used. Substitute with a YS instrument.

*4: Replace with the communication card of FIO plus YS1000.

*5: For connection between an LCS card and a star-type YS instrument, replacement with star type is not possible in updating to FIO. Since SCIU is currently under order stop, FIO needs to be formed as a daisy chain.

Precautions when upgrading the I/O card

- FIO (Fieldnetwork I/O) contact I/Os allow the designation of operation mode on a point-by-point basis. The operation mode, which varies with the type of I/O module, is selected by the IOM builder.
- Odd and even terminals in the pulse width output module and the status output/pulse-width output integrated module are identically defined for every two terminals. If different definitions are used, changes in wiring are required.
- If the following cards are used, their hardware specifications are changed to software specifications, so, the existing systems should be examined.
 - ST2/ST3/ST4/ST5/ST7 cards: Output values when the CPU in a field control station fails (hold/OFF)
 - PB5: Signal detection (rising/falling)
 - MX2/MX3: Presence or absence of burnup
- Instruments that allocate two-point consecutive DI/Os, such as switch instrument SIO-22 in CENTUM V and CENTUM-XL systems allow crossover allocations between cards, but, FIO in the CENTUM VP system does not provide those allocations. DI/O should be converted to %SW using a sequence table. Valve monitor functions and I/Os of a CI/CO cannot allow crossover allocations between cards either.

Precautions when upgrading the existing SC card

If the bus of FIO is used, SC cards can be upgraded on a card-by-card basis. If the following cards are used, their hardware specifications are changed to software specifications, so, the existing systems should be examined.

- EP1: Load resistance (200 Ω /510 Ω /1 k Ω) and filter settings (ON/OFF)
- ET5/ER5/EM1/ES1: Disconnection processing (burnup, burndown, or none)
- EA5/EH5: Square-root input processing