LED "RUN" (green):
Operation. Lights when the program is running, i.e. it lights continuously during normal operation. (The digitised measured variables are not transferred to the bus, if this LED is not lit.)

Socket "PASSIVE":
The A/D converter is blocked and no data (digitised measured variables) are transferred to the bus when the shorting pin is inserted. The already stored data and measured variables are not deleted.

Socket "RESET":
The program is restarted by briefly inserting the shorting pin. All the units are reinitialised and the stored measured variable tables are deleted.

Settings

No (hardware) settings are necessary on the 216EA61 unit itself.

The measuring channels are assigned to the activated protection functions (configuration) with the aid of the portable user interface (PC) connected to the 216VC62a unit.

Refer to the set of specific plant diagrams for the configuration of the particular plant.

2.5.4. Binary O/P unit 216AB61

The 216AB61 output unit transfers signals generated by the activated protection functions to the auxiliary relays K1...K16 in the 216GA61 O/P relay unit for purposes of remote signalling.

The unit has 32 O/P channels, i.e. a single 216AB61 unit can control two 216GA61 O/P relay units (see also Section 2.4.2.).

- connector "a" (upper) : channels CHO01...CHO16
- connector "b" (lower) : channels CHO17...CHO32

If there are several 216AB61 units in a system, the O/P channels are designated within the system according to Table 2.1.

O/P channels CHO01 and CHO02 of the first 216AB61 unit in a system (at rack division 12; see Fig. 2.2) are reserved for system alarm signals.

- CHO01 : Stand-by (general alarm line SML); active during normal fault-free operation.
- CHO02 : No system defect (stand-by signal line CK); active during normal operation.

Refer to Section 6.2. for the significance of the system alarm signals.

All 32 O/P channels of the second 216AB61 unit in a system are available for the signals of active protection functions.

Design

Figure 12.10 shows the front view of the binary O/P unit, which is a plug-in unit with a width of 1 standard division (1T). The internal auxiliary supply voltage is 5 V and is derived inside the unit from the 24 V auxiliary d.c. supply. The unit's main components are:

- a bus interface
- an O/P register and O/P monitor
- O/P driver stages.

Frontplate signals and controls (see Fig. 12.10)

LED "AL" (red):
Alarm. Lights when the unit has an internal defect. See Section 6.1. for possible causes.

LED's "CH OUT" (yellow):
O/P channels. Indicate which of the activated protection or logic functions have picked up. The LED's remain lit for as long as the functions remain the picked up.

- 01...32 of the first unit corresponding to CHO01...CHO32
- 01 and 02 of the first unit light continuously during normal operation (system alarm signal).
- 01...32 of the second unit corresponding to CHO33...CHO64

Socket "PSV":
Passive. All O/P channels are blocked when the shorting pin is inserted. None of the LED's light. The statuses stored in the O/P register are not deleted.

Settings (see Fig. 12.11)

The position of the plug-in jumper XJ1 on the PCB determines whether the unit's system alarm signals ("System defect" and "Stand-by" signals CHO01, CHO02) are operational or not. They must be in operation in the first O/P unit of a system.

- 1st 216AB61 (at rack division 12): XJ1 in position X4-X5
- 2nd 216AB61 (at rack division 13): XJ1 in position X3-X4

The signalling channels are assigned to the activated protection functions (configuration) with the aid of the portable user interface (PC) connected to the 216VC62a unit.

Refer to the set of specific plant diagrams for the configuration of the particular plant.

2.5.5. Analogue/binary O/P unit 216AC61

O/P unit 216AC61 has 8 analogue and 16 binary O/P channels. The analogue O/P's supply impressed currents in the range 0 - 20 mA, e.g. for driving instruments. They are thus used for displaying the variables measured by protection functions or an SCS. The analogue and binary O/P channels are neither electrically insulated from each other nor from the auxiliary supply.

The binary O/P signals generated by the active protection functions (protection and control) can be transferred to the auxiliary relays K1...K16 in the O/P relay unit 216GA61 for purposes of remote signalling.

- connector "a" (upper) : binary channels CHO01...CHO16
- connector "b" (lower) : analogue channels AA001...AA008

Where a system requires several 216AB61 and/or 216AC61 units, the O/P channels are designated within the system according to Table 2.1.

If the system does not include a 216AB61 unit, the binary O/P channels CHO01 and CHO02 of the first 216AC61 unit (at rack division 12; see Fig. 2.2) are used for the system alarms (the unit can thus be used instead of a 216AB61).

- CHO01 : Stand-by (general alarm line SML); active during normal fault-free operation.
- CHO02 : No system defect (stand-by signal line CK); active during normal operation.