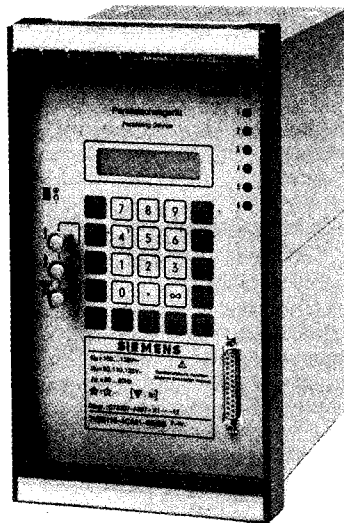
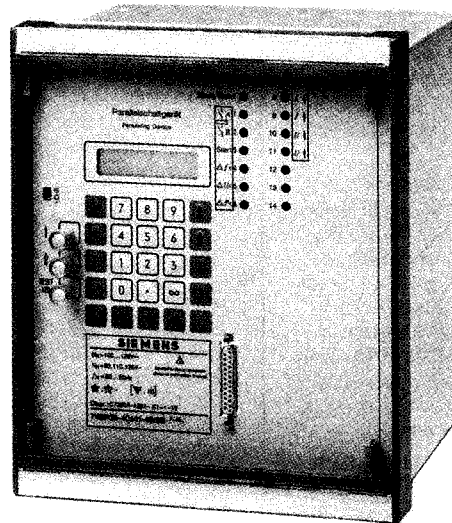


Synchronising unit 7VE51



7VE511

R12-003



7VE512

R12-004

Fig. 1
Synchronising unit 7VE51

Application

The digital synchronising unit 7VE51 is used to synchronise networks and generators.

In the operating mode "Paralleling of synchronous networks" the frequency difference measurement is performed with extremely high accuracy. If a frequency difference is not detected during an extended period of time, then the networks are considered to be in synchronism and a larger switching angle can be permitted.

When synchronising generators, it is of advantage to automatically adjust the speed to the network frequency and the generator voltage to the network voltage. For this purpose a model with integrated frequency and voltage matching is available.

The synchronising unit can be delivered in two versions: The 7VE511 unit is the smaller model and contains 2 parameter blocks for the synchronising points (circuit-breakers) but does not include frequency and voltage matching.

The 7VE512 unit is the larger model and contains 6 parameter blocks for the synchronising points (circuit-breakers) and an integrated frequency and voltage matching unit.

Construction

Within its compact construction, the unit contains all the components required for:

- Capture and evaluation of measurements
- Operator panel and display field
- Alarm and control outputs
- Binary input option
- Serial interfaces
- Auxiliary voltage DC/DC converter.

The unit can be supplied in two case variations. The variant for flush mounting or cubicle mounting has rear connection elements. The model for surface mounting is supplied with screw terminals accessible from the front.

Serial interface

The operator interface at the front can be used for connecting a PC. An additional isolated interface is provided for connection to the substation control system LSA 678 or to a central protection device.

An operator program DIGSI is available for AT compatible PCs.

Settings

All setting parameters are input either via the integrated operator panel and display field or via a PC under user control. The settings are stored in a non-volatile memory, so that they cannot get lost even during interruption of the supply voltage.

Self-monitoring

Extensive continuous self-monitoring from the connections through to the coils of the control relays ensures high availability and low maintenance.

Hardware, software and external transformer circuits are monitored continuously.

Synchronising unit 7VE51

Selection and ordering data

Synchronising unit	Order No. 7VE51□0 - □□A00-0□
Without frequency and voltage matching units With 2 selectable parameter blocks in casing 7XP20 30	↑ 1
With frequency and voltage matching units With 6 selectable parameter blocks in casing 7XP20 40	↑ 2
Rated auxiliary voltage 24 V, 48 V DC 60 V, 110 V, 125 V DC 220 V, 250 V DC	↑ 2 4 5
Construction Panel surface mounting Panel flush mounting/cubicle mounting	↑ B C
Serial interface Hard-wired ¹⁾ Integrated optical fibre connection	↑ B C

1) As 2 kV isolated V.24 interface.

Synchronising unit 7VE51

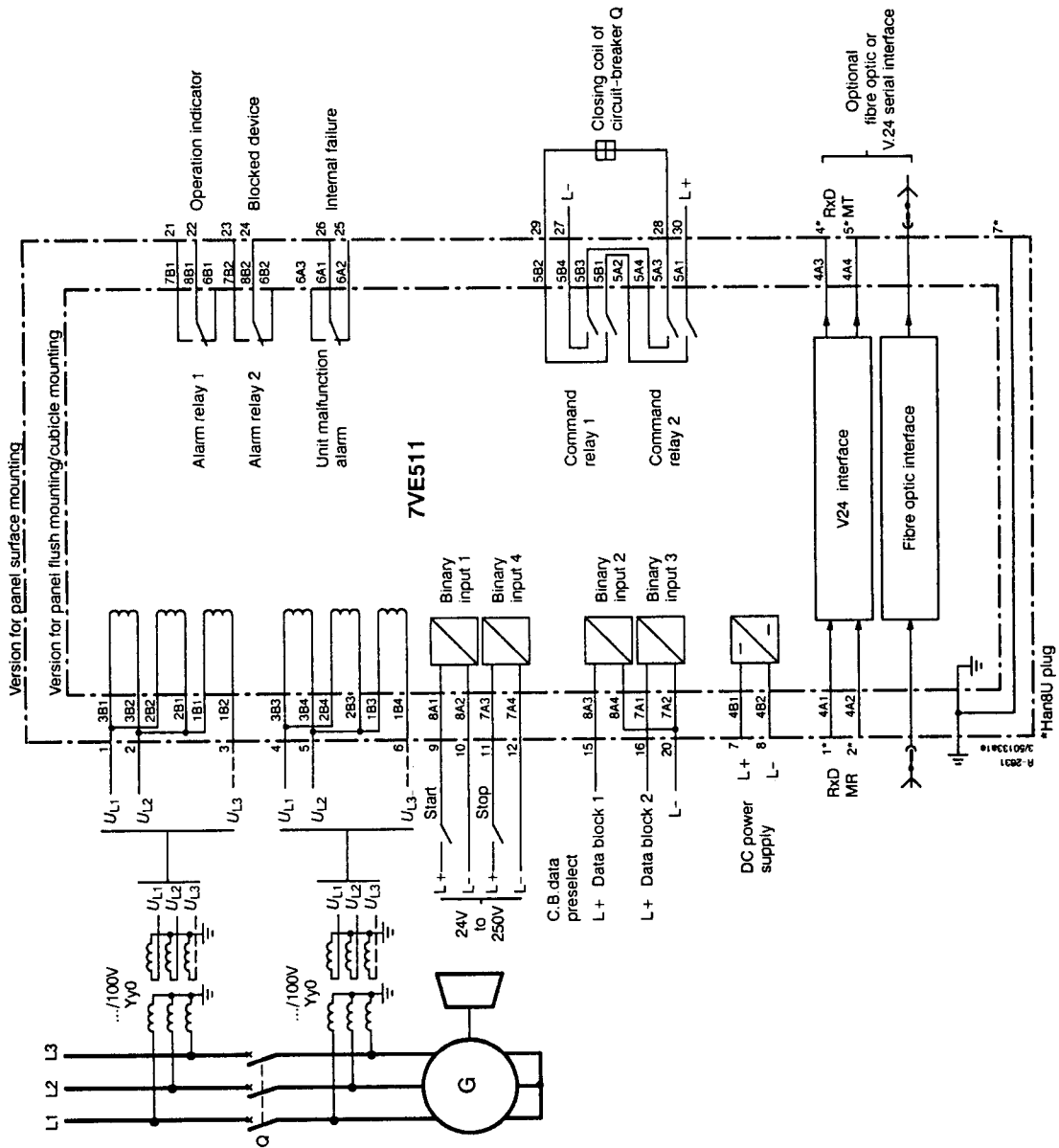


Fig. 2
Connection diagram, synchronising unit 7VE511

Synchronising unit 7VE51

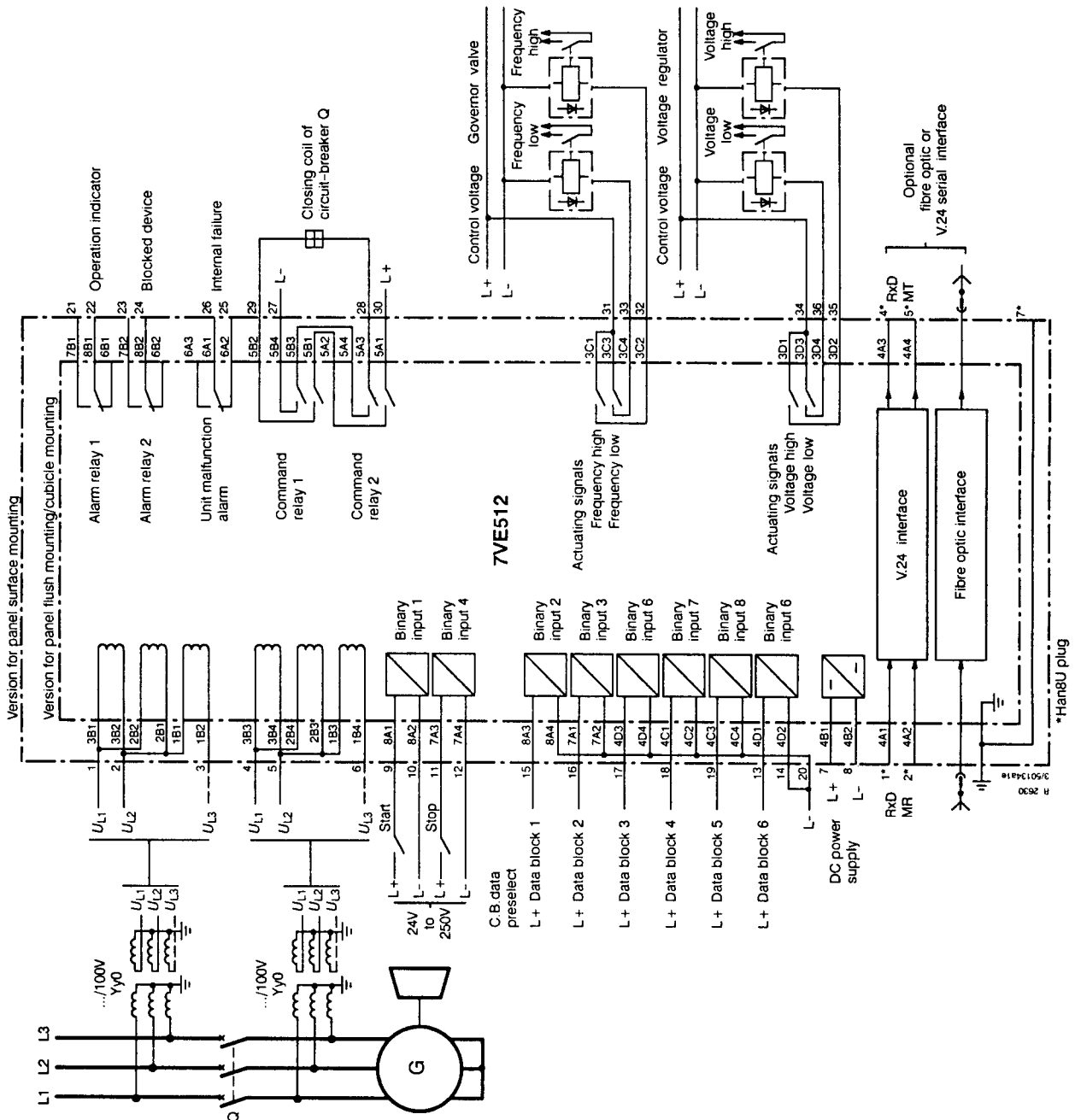


Fig. 3
Connection diagram, synchronising unit 7VE512

Dimension drawings in mm

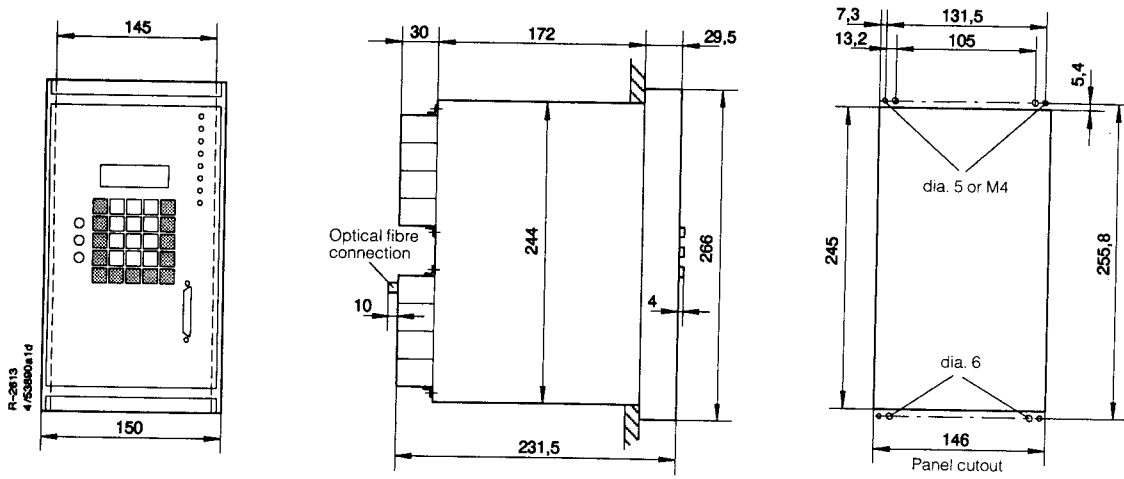


Fig. 4
Panel flush mounting, cubicle mounting, synchronising unit 7VE511

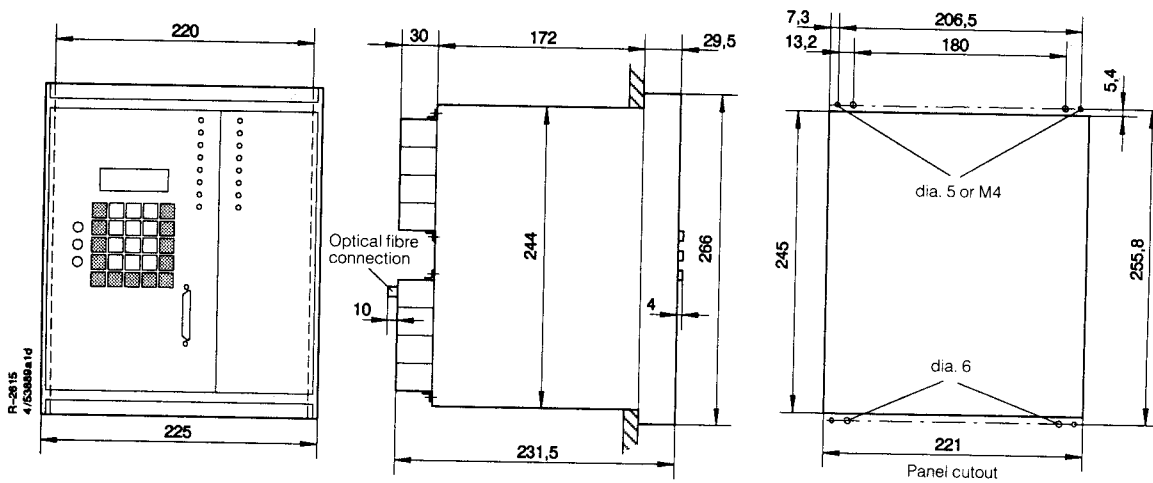


Fig. 5
Panel flush mounting, cubicle mounting, synchronising unit 7VE512

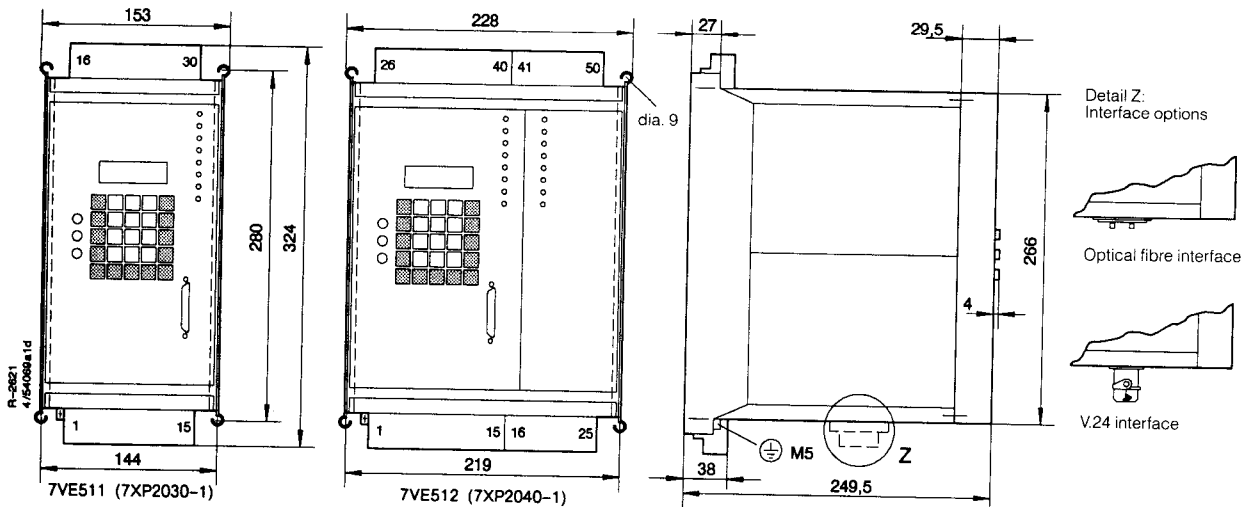


Fig. 6
Panel surface mounting

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