

Module and Application Description

PROCONTROL P

Transmission

Remote Bus Junction Module for Remote Bus Coupling in the PROCONTROL Cabinet

Publication No.

D KWL 6315 93 E, Edition 01/94

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88FK05 – E/R0100

Application

The 88FK05–E/R0100 remote bus junction module is intended for coupling the cabinet to a channel of the PROCONTROL remote bus.

A maximum of 32 88FK05 remote bus junction modules per channel can be connected to one remote bus line.

Two 88FK05 modules can be used to connect 1 ... 4 stations either in the form of a single–channel or a dual–channel connection (see the 'Station connections' block diagram).

Up to two 88FT05 modules can be connected to one 88FK05 module.

The remote bus junction module is designed to be installed in a PROCONTROL cabinet, type 89MS01/R0200 and 89MS02/R0100.

Features

The remote bus junction module is the passive part of the remote bus coupling and, therefore, requires no supply voltage.

It uses

- two standard interfaces for the PROCONTROL remote bus
- two standard interfaces for the 88FT05 remote bus coupling module.

Connection to the remote bus is by an incoming and an outgoing twin–axial cable.

The station is connected by an RG58 A/U standard coaxial cable.

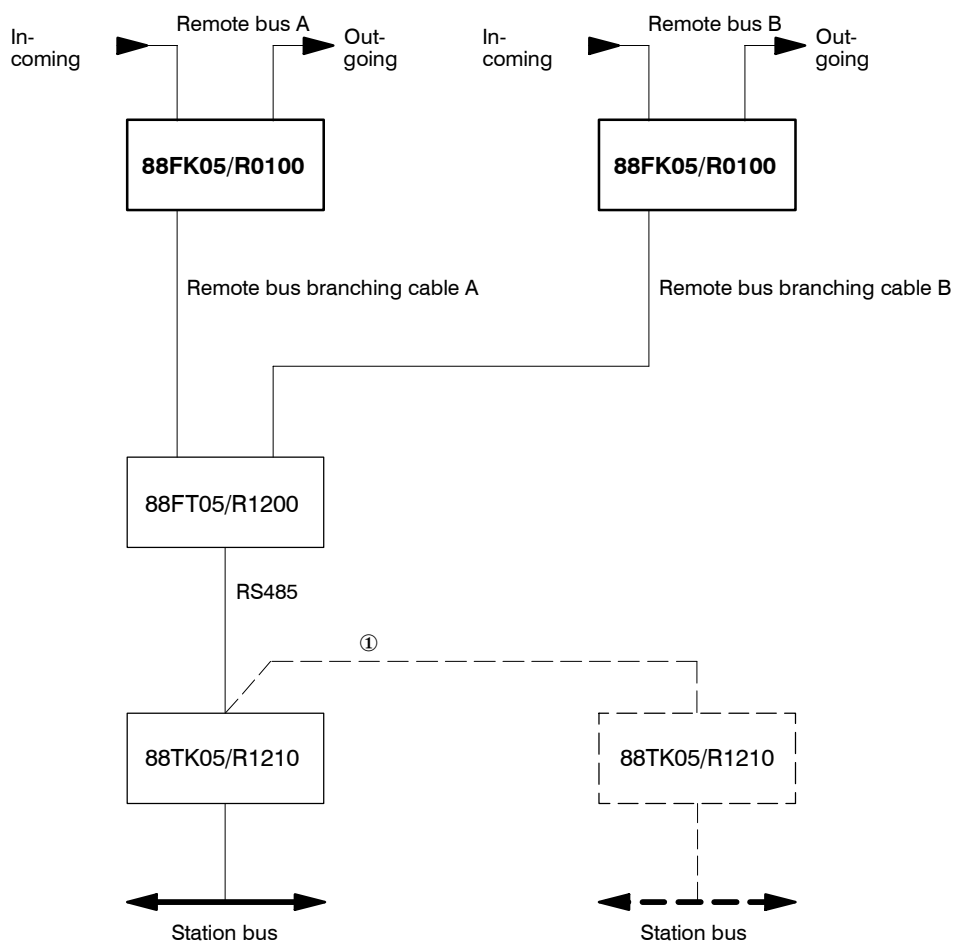
The module design provides for earth connection to the cabinet casing.

The remote bus junction module is equipped with a remote bus termination. This termination is needed to terminate the remote bus cable considering its specific impact wave resistance. It has to be activated by relocating two jumpers in the remote bus junction module (see paragraph on 'Module setting').



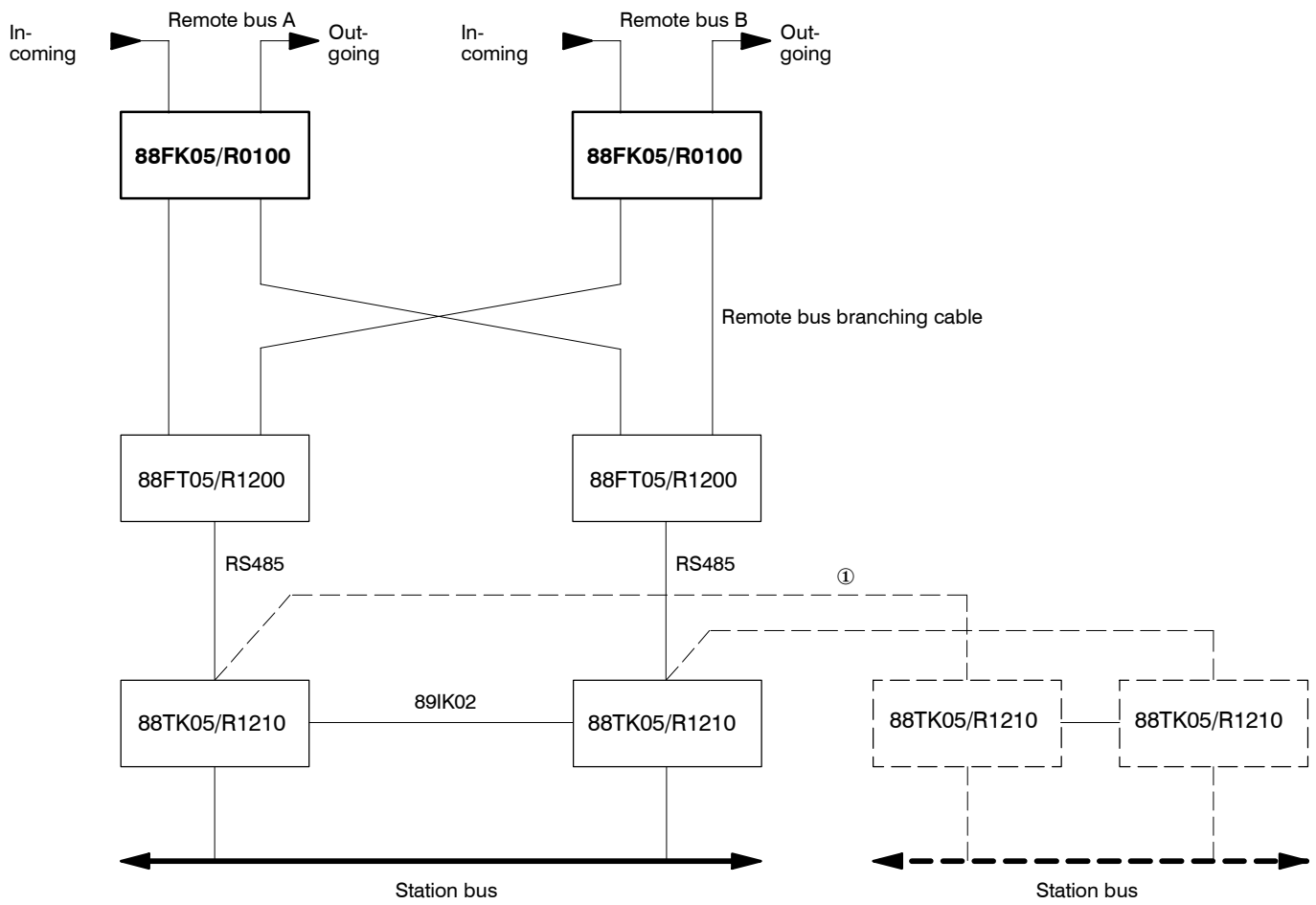
Block diagram of 'Station connections'

Single-channel station bus coupling



① A maximum of four stations can be connected in two neighbouring cubicles.

Dual-channel station bus coupling

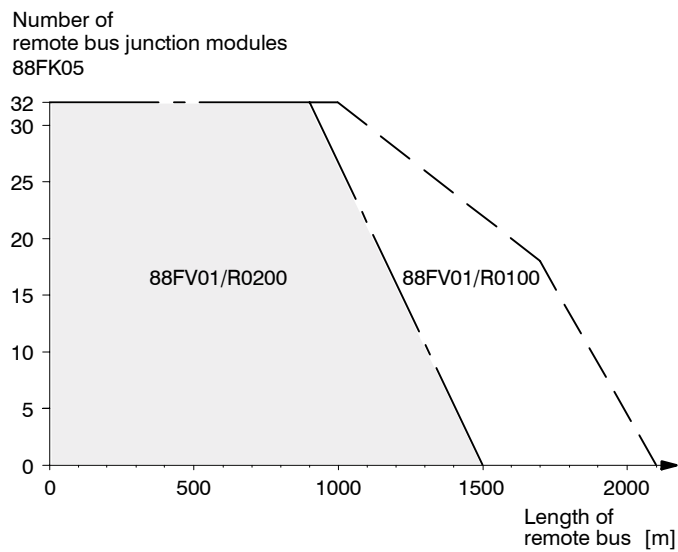


① A maximum of four stations can be connected in two neighbouring cubicles.

Length of the remote bus lines

The maximum permissible length of the remote bus line is dependent on the number of the remote bus junction modules 88FK05 used and on the dimensioning of the noise receiver in the master station modem module 88FV01/R0100/R0200.

The bus range chart shows the permissible remote bus length in relation to the number of remote bus junction modules 88FK05 for the versions R0100 and R0200 of the master station modem module 88FV01.



Bus range chart

Module setting

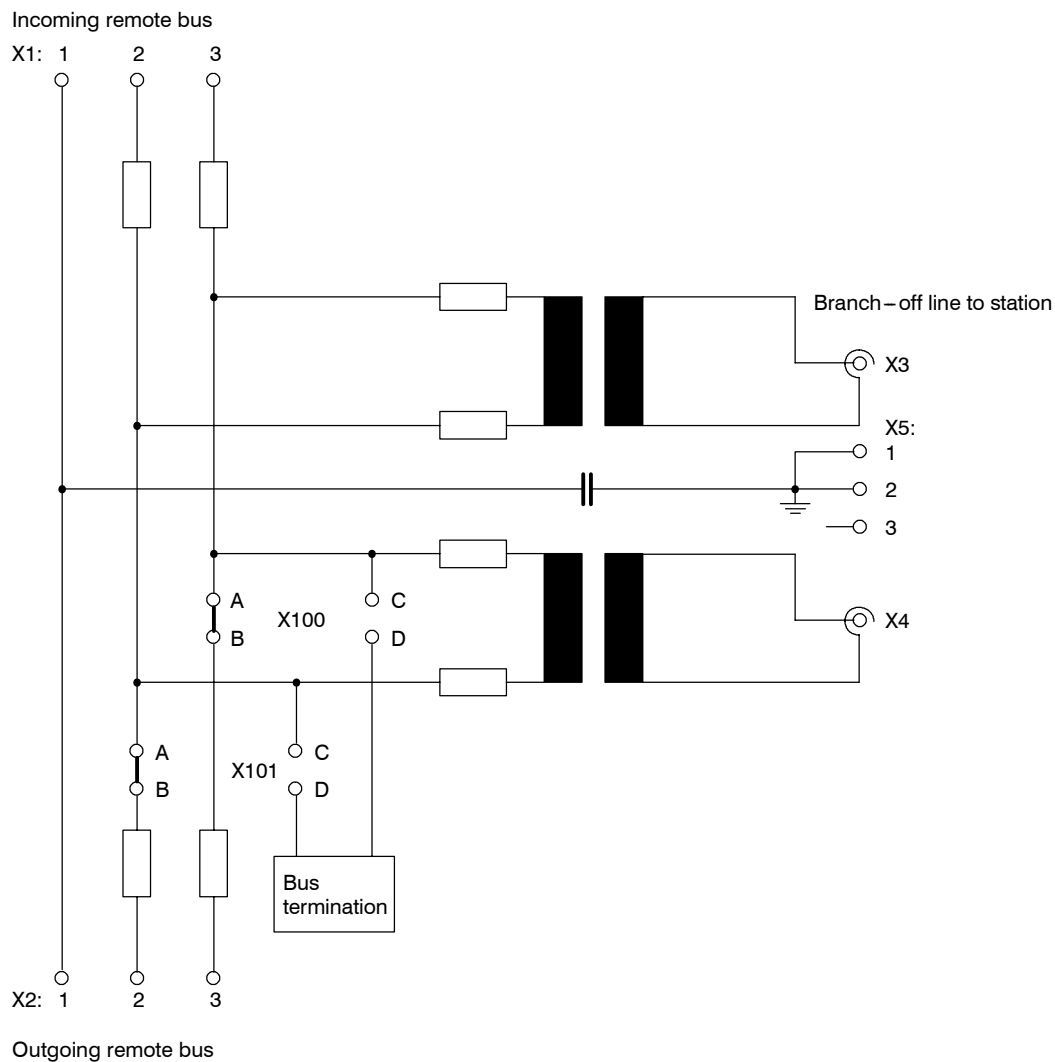
The module is equipped with a remote bus termination which can be activated by relocating two jumpers.

In the last remote bus junction module, each remote bus line has to be terminated by a remote bus termination.

For this purpose, the remote bus termination needs to be activated as follows:

| Operating mode | Jumper positions |
|---|--|
| Remote bus termination not active (condition as delivered) | X100 – position A–B and X101 – position A–B |
| Remote bus termination active | X100 – position C–D and X101 – position C–D |

Function diagram



Connection diagrams

The remote bus junction module comprises three-pole plug-in connector terminals X1, X2, X5 and BNC coaxial sockets X3 and X4.

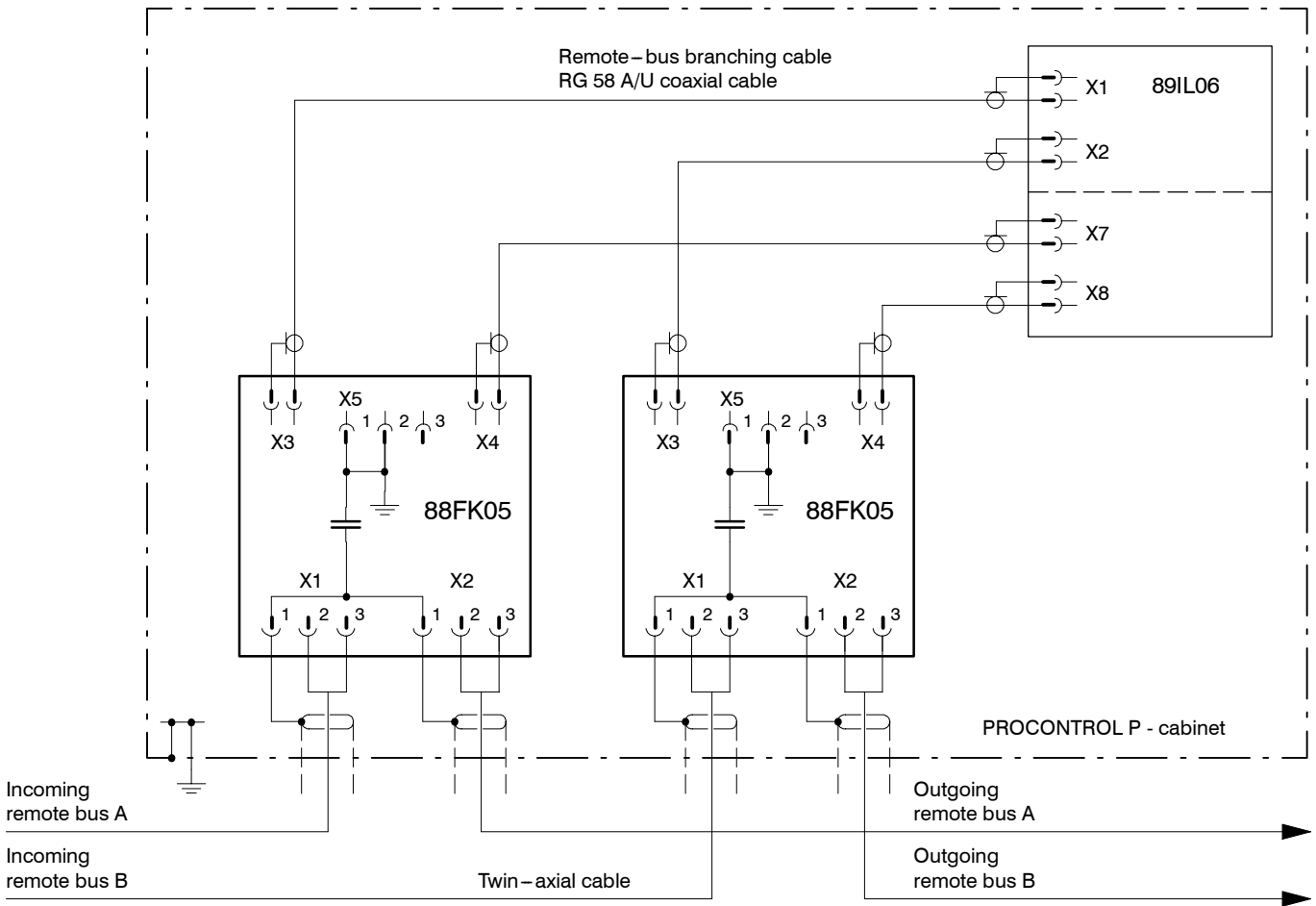
The remote bus branching cables to the 88FT05 are connected to X3 and X4.

The remote bus cables are connected to X1 and X2.
Remote bus cable connections:

Terminal X1 :1 screen
 :2 white core of incoming
 :3 red core remote bus line

Terminal X2 :1 screen
 :2 white core of outgoing
 :3 red core remote bus line

Module connection within the PROCONTROL - cabinet



Mechanical design

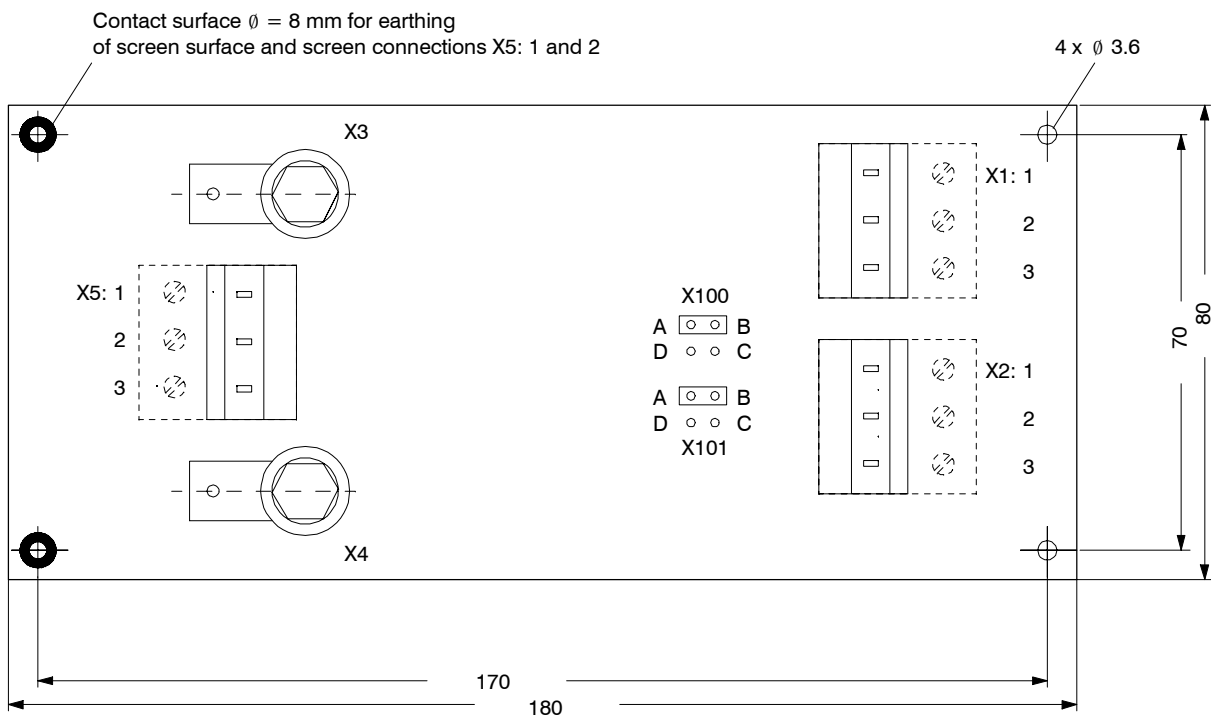
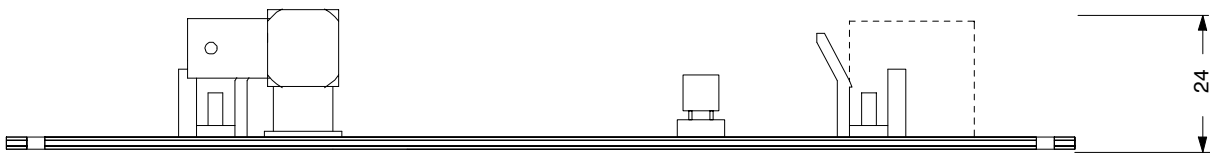
Module dimensions: L x W x H = 180 x 80 x 24 mm

Basic casing for

Plug-in connectors: X1, X2, X5

BNC coaxial sockets: X3, X4

Weight: approx. 0.15 kg



Technical data

In addition to the system data, the following values apply:

Losses (voltage values)

| | |
|--|----------|
| Extraction loss (remote bus to branch) | ≤ 24 dB |
| Launching loss (branch to remote bus) | ≤ 16 dB |
| Insertion loss (continuous remote bus) | ≤ 0,4 dB |
| Return loss | > 60 dB |

Remote bus branching cable

| | |
|---|-------------------------|
| Cable type | RG58 A/U coaxial cables |
| Cable length within closed cabinet casing | max. 10 m |
| Approved cables shall be used only. | |
| The instructions on cable installation shall be adhered to. | |

Noise immunity when installed according to instructions

| | |
|---|--|
| ESD acc. to IEC 801/2 | 8 kV to cover |
| EMC acc. to IEC 801/4 | 1 kV burst coupled into remote bus cable |
| Insulation resistance (between remote bus and remote bus branch) | 2 kV |

ORDERING DATA

Type designation: 88FK05–E/R0100

Order number: GJR2393600R0100

Accessories:

Plug–in connector/socket unit for X1, X2, X5
(connector part with screw–type connection,
max. core cross–section 4 mm²)
Twin–axial remote bus cable

GSTB3/3–ST–7.62
Make: Phönix, order number: 1750171

Coaxial cable for remote bus branching

87IF01
Make: ABB–KWL identification number: GKWN000065
RG58 A/U
Make: Belden, order number: 8259

Technical data subject to change without notice!



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