PRS – PROFIBUS DP Redundancy Switch

Switch for PROFIBUS DP Master Redundancy

☐ Description

PRS – the optimal solution for the realisation of redundant DP Master systems.

PRS is a compact 24 Volt hat rail module for the connection of two DP Masters as input and one PROFIBUS network connected to the DP Slaves as output.

The device avoids all disadvantages of present redundancy concepts because PRS generally prevents the DP Masters from simultaneously connecting to the PROFIBUS.

Present PROFIBUS DP Master redundancy concepts are software based DP multi Master solutions, where the operational and the redundant DP Master exchange live information via the PROFIBUS line. In case of failure of the operational DP Master the redundant DP Master assumes the hitchless communication with the DP Slaves. The redundant DP Master also has to be parameterised to the PROFIBUS address of the faulty operational DP Master. This concept is called the Flying Master Algorithm. This principle goes along with several risks: If the faulty DP Master does not disable its PROFIBUS bus traffic, a double address conflict occurs and the whole network will stop. A further disadvantage is the fact that many DP Master implementations on the market do not support the Flying Master Algorithm.

However PRS works with every standard PROFIBUS DP Master and also allows the simple upgrade of an existing plant for redundancy operation. The device automatically detects the state of the two DP masters. In case of failure of the operational DP Master, the device switches the PROFIBUS line over to the redundant DP Master within milliseconds. Both DP Masters can be configured identically, that simplifies the exchange of a defect system. A failure of PRS does not cause a total breakdown because the current state is guaranteed even if the power supply is disconnected.

PRS is a double DP Slave that can be easily added to the DP Master's PROFIBUS configuration via its GSD file.

The device provides important information for the redundancy operation, such as:

- ☐ The alive state of the complementary system
- ☐ A manual switch-over command on the command level

PRS also allows the realization of very complex redundancy systems, i.e. in connection with PROFIBUS OPC servers or overlying Ethernet based cell networks.

PRS – PROFIBUS DP Redundancy Switch

Tel: +49-721/9497-291 Fax: +49-721/9497-299 E-mail: infoicp@comsoft.de

Technical Data

Interfaces	Ethernet PROFIBUS Serial	2*10/100BaseT 3*RS485 (DB9) RS232 (screw terminal)
Baud Rates	Ethernet PROFIBUS RS485 RS232	max. 100 Mbit/s max. 12 Mbit/s 57.6 Kbit/s
Supported PROFIBUS Protocol Versions	DPV0	DP Slave

Order Number

Order No.	**Item**
4000-2-P 00 -3 -H -*	**PRS – PROFIBUS DP Redundancy Switch**
	Additional Equipment
4000-7-0 0 4 -P	Serial cable set
4000-7-0 0 5 -P	Ethernet cross-over cable
4000-7-0 0 S -H	Power supply 24 V / 1,3 A with 100 - 240 V power boost for up to 2 SNL2-E/FNL/PRS
4000-7-0 1 S -H	Power supply 24 V / 2 A with 100 - 240 V power boost for up to 5 SNL2-E/FNL/PRS

* Please complete the order number either with E for a documentation in English or D for a documentation in German.