Performance/transmission bandwidth

Maximum transmission rate

A maximum of 200 data packets can be theoretically sent from each send interface module.

A data packet is the send structure of the associated send module.

A maximum configuration would be for example 20 send modules under a 100 ms task.

CPU loading from send and receive modules

With compact data, that is, data packets as large as possible (< 1400 bytes) each send/receive pair can achieve the following data rates:

1%	CPU load for ~ 7.3 KByte/s on	Without redundancy enabled at the receive modules
1%	CPU load for ~ 5.5 KByte/s on	With redundancy enabled at the receive modules

When the same data volume is divided among several links, the CPU load increases by up to a factor of 5.

When structuring data, make sure that 4-byte alignment is performed.

BOOL

< 1 filler byte

INT

REAL

BOOL

< 3 filler bytes

8 bytes net → 12 bytes gros

The data should be carefully organized to keep the total volume as small as possible.

Use in default-tasks (SPS-mode)

Using send and receive modules in SPS mode is not worthwhile, as the resulting load is too high (running as rapidly as possible). It would not be possible to monitor the communication stations with time out cycles.

Inappropriate data length for send/receive pair

If the receiver determines an inappropriate data length, an error is signaled and the received data packet is discarded.

Change of the redundancy connection load

The load of the redundancy connection is described by the predefined variable “Resource-Name” “RedLinkLoad”. It shows the percentage load for redundant communication, relative to a maximum value.

For receive modules configured with redundancy enabled, the following approximate increases in load as a function of data volume can be expected:

Δ Red Link Load = 1% per 2 KByte/s with compact data.

The 100% reference point is currently set at 200 KByte/s.