HS 840 Head station for LD 800P

**Benefits**

- 4 channel head station with redundancy
- PROFIBUS DP transfer rate up to 12 MBit/s
- Significant cycle time reduction by 4 independent head station channels
- Transparent, occupies no PROFIBUS address
- Automatical Baud rate detection on PROFIBUS DP
- PROFIBUS DP media redundancy
- PROFIBUS master independent
- Up to 125 PA-devices connectable
- No configuration necessary
- Removable terminal blocks
- EMC acc. to NAMUR NE 21

**Function**

The Linking Device LD 800P consists of one head station and at least one Power Link Module. It is designed for the connection of PROFIBUS PA segments to PROFIBUS DP.

On PROFIBUS DP side all transfer rates from 45.45 kBit/s up to 12 MBit/s acc. to EN 50170/2 are supported.
## Technical Data

### Power
- Nominal voltage: 20 ... 35 V DC
- Nominal current: 430 mA ... 190 mA
- Safety relevant maximum voltage $U_m$: 253 V AC/ 125 V DC (Note! $U_m$ is not a nominal voltage)
- Ripples: ≤ 10 %
- Power dissipation: 3 W

### Galvanic separation
- CH/PROFIBUS DP: Function isolation, designed isolation voltage 50 V$_{eff}$
- PROFIBUS DP/Power: Function isolation, designed isolation voltage 50 V$_{eff}$
- All circuits/FE: Function isolation, designed isolation voltage 50 V$_{eff}$

### Field bus connection
- Connection: 9-pol. Sub-D-socket
- Profibus DP: 1 RS485-Interface
- Protocol: PROFIBUS DP V1
- Baud rate: 45,45 kBit/s ... 12 MBit/s

### Connection to Power Link Modulen
- Connection to: Terminals CH 28+, 29- of PL 810
- Terminals CH 40+, 41- of PL 890

### Entity parameter
- Approval for zone 2: TÜV 02 ATEX 1888 X
- Group, Category, ignition protection method: II 3 G EEx n A II T4

### Standards
- Field bus standard: EN 50170/2
- Galvanic separation: EN 50178
- Electromagnetic compatibility: NAMUR NE 21
- PROFIBUS DP V1: EN 50170/2
- Protection type: IEC/EN 60529

### Conformity to Directives
- Electromagnetic compatibility: EC-Directive 89/336/EWG
- Standard: EN 61326
- Explosion protection: EG-Directive EG94/9
- Standard: EN 50021

### Environmental conditions
- Ambient temperature: -20 ... 60 °C (253 ... 333 K)
- Relative humidity: < 75 %

### Mechanical data
- Connection type: Removable terminal blocks
- Conductor cross section: up to 2,5 mm$^2$
- Housing: 60 mm x 115 mm x 107 mm
- Mass: 600 g
- Protection class: IP20
Functional Description

A Linking Device consists of one head station and at least one power link module for establishing the connection of PROFIBUS PA Segments to PROFIBUS DP. PROFIBUS is standardized according to EN 50 170/2. The head station supports all there defined transfer rates from 45.45 kBit/s up to 12 MBit/s.

The head station provides one, two or four channels. PROFIBUS PA masters of each channel work independently of each other. The result of this is that reaction times can be reduced drastically. Up to 5 power link modules can be connected to each channel. Each power link module creates a new segment.

The communication between the head station and the Power Link Modules is realized via removable terminal blocks.

The communication is transparent. Each PA-subscriber is planned like a PROFIBUS DP subscriber and each PA device is directly addressed like a DP slave device. The head station and the power link modules don’t need to be planned.

It is allowed to mount the head station, and the power link modules within zone 2.

The head station HS 840 permits the operation with redundant transmission line on PROFIBUS DP side.

The channels are working with 31.25 kBaud (Manchester coded). This saves from additional time delay within the Power Link Modules.

For detailed information please refer to the User Instructions Linking Device LD 800P (3BDD011704R0101).

Dimensions
For PROFIBUS PA applications ABB Automation Products offers the following accessories:

- Power Link Module PL 810 without intrinsically safe interface
- Power Link Module PL 890 with intrinsically safe interface
- User Instructions Linking Device LD 800P (3BDD011704R0101)

Application example

For more information of FieldIT, contact us at fieldbus@de.abb.com
For the latest information on ABB visit us on the World Wide Web at http://www.abb.com/control

Our worldwide staff of professionals is ready to meet your needs for process automation.
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