
Allen-Bradley DF1 template

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The Allen-Bradley DF1 protocol is a major industrial serial protocol supported by a large number of devices, both those built by Allen-Bradley and other companies. It supports full-duplex peer-to-peer as well as half-duplex master-slave communications.

Half-duplex message frames

The half-duplex protocol uses three types of transmission frames:

- Polling frame
- Master message frame
- Slave message frame

Polling frame

Please note! A polling-frame is always terminated by a BCC independent of the communication/module checksum settings.

DLE	Hex 10
ENQ	Hex 05
STN	Station number
BCC	Block Check Character

DLE	Hex 10	1 Byte
SOH	Hex 01	1 Byte
STN	Station number	1 Byte
DLE	Hex 10	1 Byte
STX	Hex 02	1 Byte
DST	Destination	1 Byte
SRC	Source	1 Byte
CMD	Command	1 Byte
STS	Status field	1 Byte
TNS	Transaction number	2 Bytes
Data	(Command) Data	Max. 244 Bytes
DLE	hex 10	1 Byte
ETX	hex 03	1 Byte
CRC	Cyclic Redundary field	2 Bytes

Master message frames

Slave message frame

Checksum

References

- [1] Allen-Bradley. DF1 Protocol and Command set, Reference Manual, 1770C6.5.16 C October, 1996