

1 DESCRIPTION

The Data Aire DART Driver is designed for connection to a DataAire Corporation DART. This driver has been modified for use on intelli-DART units which operate differently to previous DART units.

The Dart device is an active element on a network of DataAire devices such as DAP panels. It manages the devices and provides co-ordination and supervision. In performing these duties the Dart device polls all the devices on the network for all the data. The Dart is capable of 'echoing' the responses from these devices on one of its RS-232 ports. This driver is designed to listen passively to these echoes and store device data. The driver can write set points and other data to DAP devices connected to the network. It does this by communicating with the DART which passes the messages onto the DAP devices. A consequence of this, is that for a period of time the DART suspends its control and management of the DAP devices.

The driver is not suitable for direct connection to a network of Data Aire DAP or Chiller devices. A different driver (DAP driver) is provided by FieldServer Technologies for this type of connection.

The intelli-DART driver is not passive, and is required to poll the intelli-DART units for DAP data after login. Logins are required on the initial poll, after 20 minutes, and if polls for data fail.

The FieldServer is connected to the RS-232 serial port of the Dart. The FieldServer can read and write but active polling should be minimized as it reduces the amount of time that the DART spends controlling the networked devices. The driver operates primarily as a Passive Client listening to echoes of the data being polled by the DART. The DART must be manually set to 'Echo' mode on the front panel of the Dart for the driver to operate correctly.

The driver may be configured very simply, storing all the data obtained from each field device in a large array. A simple one line configuration tells the driver to store 'everything'. The driver manual identifies the location in the array of each data field. Advanced configurations are also possible.

1.1 Performance Issues

Several factors outside FieldServer's control make for slow communications with DataAire devices.

- The DataAire communication is based on a very low baud rate. In addition inter-message timing constraints and overhead requirements for active messages in a Dart configuration add significant time to each transaction. When writing continuously, with DART configurations, the minimum time interval between successive writes is 2 minutes.
- When a used with a DART device, writing to a set point (or other variable) may take up to 8 seconds to complete. The results of the write will not be seen until the DART has timed-out back into control mode and echoes the new data to the FieldServer. This will take at least 30 seconds and could take several minutes if there are many devices on the loop.

FieldServer Mode	Nodes	Comments
Client	32	There is a limit of 32 devices that can be connected to a DART

2 FORMAL DRIVER TYPE

Serial

Client Only

3 COMPATIBILITY MATRIX

FieldServer Model	Compatible with this driver
FS-x2010	Yes
FS-x2011	Yes
FSx25	No
FS-x30	Yes
FS-x40	Yes
SlotServer	No
QuickServer FS-QS-1010	No
QuickServer FS-QS-1011	No
ProtoNode	No
ProtoCessor FPC-FO2	No
ProtoCessor FPC-FD2	No

4 CONNECTION INFORMATION

Connection type:	RS-232
Baud Rates:	2400 (Dart III)/ (9600 intelli-DART/Dart IV) (Vendor limitation)
Data Bits:	8 (Vendor limitation)
Stop Bits:	1 (Vendor limitation)
Parity:	None (Vendor limitation)
Multidrop Capability	No

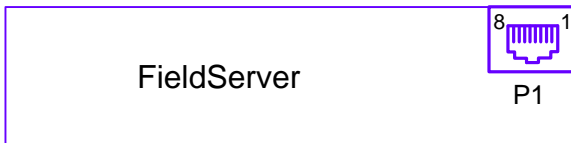
5 DEVICES TESTED

Device	Tested (FACTORY, SITE)
DART III	Factory/Customer
DART IV	Factory
intelli-DART	Factory

6 CONNECTION CONFIGURATIONS



CAT 5 CABLE
FS-8915-10



6.1 Connection Notes

The DART must be set to 'Echo' mode on the front panel of the Dart for the driver to operate correctly.

7 COMMUNICATIONS FUNCTIONS - SUPPORTED FUNCTIONS AT A GLANCE:

The driver is capable of storing all data available from the following devices if they are connected to the DART.

Device	Driver Capability	Description
"1"	None	044 data logger
"2"	Yes	046 expanded DAP
"3"	Yes	046 2 mod chiller
"4"	Yes	046 3 mod chiller
"5"	Yes	048 DAP, 80-character display
"6"	Yes	049 DAP, 16-character display
"7"	Yes	080 DAP II, no relay expansion
"8"	Yes	080 Chiller II
"9"	Yes	080 DAP II, with relay expansion
"10"		Not Defined
"11"		Not Defined
"12"		Not Defined
"13"		Not Defined
"E"	Yes	080 DAP II, with analog module
"F"	Yes	080 DAP II, with relay and analog
	Driver is capable of storing DART status/config data but in its current version cannot extract specific data fields.	DART II, III

7.1 Driver Limitations and Exclusions

- There can only be one type of DART driver per port. Example: DARTIII and intelli_DART nodes cannot exist on the same connection.
- When applying the password in the IntelliDART to the Web interface, it prevents communications on the Serial port because the panel expects a password from the FieldServer.