

Tables

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— DeviceNet Tables

Data Input and Output Tables

I/O Assembly Object is used for Data Transfer of the LINK register. I/O Assembly Object can access the data of the Input Point, Output Point, Input V-memory and Output V-memory. The I/O Assembly Object can also control the PLC Mode.

I/O Assembly CLASS = 4

Data Type	Instance	Attribute	Comment
Input Point	100	3	Read data from linking Input point.
Output Point	101	3	Write data to linking Output point.
Input Register	102	3	Read data from linking Input V-memory.
Output Register	103	3	Write data to linking Output V-memory.
PLC Mode	104	3	PLC Mode control (RUN/STOP)

Attribute Configure

The following tables describes each Link Register Attribute (Data Configure).

Input Point Attribute

Instance = 100 Attribute = 3

Name	Data		Address	Service	
	MSB	LSB			
Input Point	Input 07	_____	Input 00	+00	Get
	Input 17	_____	Input 10	+01	
	Input 27	_____	Input 20	+02	
	Input 37	_____	Input 30	+03	
	Input 47	_____	Input 40	+04	
	Input 57	_____	Input 50	+05	
	Input 67	_____	Input 60	+06	
	Input 77	_____	Input 70	+07	

One Input point is equal to one bit of the byte.

Eight bytes equals 64 Input points.

Output Point Attribute

Instance = 101 Attribute = 3

Name	Data		Address	Service	
	MSB	LSB			
Output Point	Output 07	_____	Output 00	+00	Set
	Output 17	_____	Output 10	+01	
	Output 27	_____	Output 20	+02	
	Output 37	_____	Output 30	+03	
	Output 47	_____	Output 40	+04	
	Output 57	_____	Output 50	+05	
	Output 67	_____	Output 60	+06	
	Output 77	_____	Output 70	+07	

One Output point is equal to one bit of the byte.
Eight bytes equals 64 Output points.

Input Register Attribute

Instance = 102 Attribute = 3

Name	Data	Address	Service
Input Register	Vn+00	+00	Get
	Vn+01	+02	
	Vn+02	+04	
	Vn+03	+06	
	Vn+04	+08	
	Vn+62	+124	
	Vn+63	+ 126	

The Data Register equals one Word (16 bits).
A maximum of 64 V-memory words can be accessed.

Output Register Attribute

Instance = 103 Attribute = 3

Name	Data	Address	Service
Output Register	Vn+00	+00	Set
	Vn+01	+02	
	Vn+02	+04	
	Vn+03	+06	
	Vn+04	+08	
	Vn+62	+124	
	Vn+63	+ 126	

The Data Register equals one Word (16 bits).

A maximum of 64 V-memory words can be accessed.

PLC Mode Control Attribute

Instance = 104 Attribute = 3

Name	Data	Address	Service
PLC Mode	01: RUN request 02: STOP request	+00	Set
	00: STOP 03: RUN		Get

The PLC Mode can be read and requested to be changed.

Device Profile Tables

Identify Object (Class 1)

Instance 1 Attribute

Attribute	Item	Data type	Value	Service
1	Vendor ID	UINT	482	Get
2	Device Type	UINT	00	Get
3	Product Code	UINT	1500	Get
4	Major Revision	UINT	*	Get
	Minor Revision	UINT	*	
5	Status	WORD	*	
6	Serial Number	UDINT	****	Get
7	Product Name	SHORT-STRING	D0-DEVNETS	Get

Common Service

Service Code	Common Service
0E	Get_Attribute_Single
05	Reset

Device Net Object (Class 3)

Instance 1 Attribute

Attribute	Item	Data type	Value	Service
1	MAC ID	UINT	0 – 63	Get
2	Baud Rate	UINT	0 – 2	Get
4	BusOff Counter	UDINT	*	Get
5	Allocation Choice	BYTE	*	Get
	Master MAC ID	USINT	*	

Common Service

Service Code	Common Service
0E	Get_Attribute_Single

Connection Object (Class 5)

Slave Explicit Messaging Connection Object (Instance 1)

Attribute	Item	Data type	Value	Service
1	State	UINT	*	Get
2	Instance Type	UINT	00	Get
3	TransportClass_trigger	BYTE	83h	Get
4	Produced_connection_id	UINT	*	Get
5	Consumed_connection_id	UINT	*	Get
6	Initial_comm_characteristics	BYTE	21h	Get
7	Produced_connection_size	UINT	*	Get
8	Consumed_connection_size	UINT	*	Get
9	Expected_packet_rate	UINT	2500	Get
12	Watchdog_timeout_action	USINT	01	Get
13	Produced_connection_path_length	UINT	00	Get
14	Produced_connection_path	USINT	String	Get
15	Consumed_connection_path_length	UINT	00	Get
16	Consumed_connection_path	USINT	String	Get

Poll Connection Object (Instance 2)

Attribute	Item	Data type	Value	Service
1	State	UINT	*	Get
2	Instance Type	UINT	01	Get
3	TransportClass_trigger	BYTE	82h	Get
4	Produced_connection_id	UINT	*	Get
5	Consumed_connection_id	UINT	*	Get
6	Initial_comm_characteristics	BYTE	01	Get
7	Produced_connection_size	UINT	*	Get/Set
8	Consumed_connection_size	UINT	*	Get/Set
9	Expected_packet_rate	UINT	00	Get/Set
12	Watchdog_timeout_action	USINT	00	Get/Set
13	Produced_connection_path_length	UINT	6	Get
14	Produced_connection_path	USINT	20h,04,24h,40h,64h,03	Get/Set
15	Consumed_connection_path_length	UINT	6	Get
16	Consumed_connection_path	USINT	20h,04,24h,42,65h,03	Get/Set

Common Service

Service Code	Common Service
10h	Set_Attribute_Single
0E	Get_Attribute_Single

I/O Assembly Object (Class 4)

Instance Attribute

Instance	Attribute	Data type	Description	Bytes Maximum	Service
100	3	BIT	Input Data	8	Get
101	3	BIT	Output Data	8	Set
102	3	WORD	Input Register Data	128	Get
103	3	WORD	Output Register Data	128	Set
104	3	BYTE	PLC Mode	1	Get/Set

Common Service

Service Code	Common Service
10h	Set_Attribute_Single
0E	Get_Attribute_Single

Instance Attribute

Instance	Attribute	Bytes Maximum	Description	Data			Address	Service
				MSB7		LSB0		
100	3	8	Input Data	07	_____	00	+00	Get
				17	_____	10	+01	
				:	:	:	:	
				67	_____	60	+06	
				77	_____	70	+07	
101	3	8	Output Data	07	_____	00	+00	Set
				17	_____	10	+01	
				:	:	:	:	
				67	_____	60	+06	
				77	_____	70	+07	
102	3	128	Input Register Data	Vn+00			+00	Get
				Vn+01			+02	
				:			:	
				Vn+62			+124	
				Vn+63			+126	
103	3	128	Output Register Data	Vn+00			+00	Set
				Vn+01			+02	
				:			:	
				Vn+62			+124	
				Vn+63			+126	
104	3	1	PLC Mode	01:RUN Request			+00	Set
				02:STOP Request				
				00:STOP				Get
				03:RUN				

The DeviceNet standard is maintained by the ODVA (Open DeviceNet Vendor Association, Inc.). Contact the ODVA for detailed information about DeviceNet.
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