Appendix: Device Profile according to IEC 61915-1

Manufacturer's Device Profile Header			
Manufacturer's device profile ID: 0003	Manufacturer's device profile description: Rev. 1.0	Manufacturer's device profile version: V 0.5	Manufacturer's device profile release date: 2003-11-13
Manufacturer ID: 0001	Model compatibility: <????????>	Software compatibility: <????????>	Hardware compatibility: <????????>
Profile type: Display	Profile availability: no	Additional information: 2 lines @ 16 characters	

Root device profile ID: n.a.		Root device profile version: n.a.					
Parameter name	Data type	Units	Offset	Multi-plier	Range	Access	Parameter Description
Input string	STRING (16)	na	na	na	na	W	string to be displayed (2 lines of 16 characters each)
Diagnosis	BYTE	na	na	na	na	R	Byte 0 of Diagnosis object
AS-Interface Vendor ID	WORD	na	na	na	na	R	Bytes 0 to 1 of ID object
AS-Interface Product ID	WORD	na	na	na	na	R	Bytes 2 to 3 of ID object
Compatibility Information	BYTE	na	na	na	na	R	Byte 4 of ID object
Version	BYTE	na	na	na	na	R	Byte 5 of ID object
Parameter	BYTE	na	na	na	na	RW	display module parameters
Text No.	BYTE	na	na	na	na	W	Index number of stored text to be displayed (3..127)

Parameter Assemblies (Manufacturer-specific)

Parameter assembly name: Serial data: acyclic read service request (Get ID)	Access: R	Required: M	Implemented: Yes

Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	7	6	5	4	3	2	1	0
0	16							
1	0							
2	6							

Parameter assembly name: Serial data: acyclic read service requ. (Get Diagnosis)	Access: R	Required: M	Implemented: Yes

Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	7	6	5	4	3	2	1	0
0	16							
1	1							
2	1							

Parameter assembly name: Serial data: acyclic read service requ. (Get Parameter)	Access: R	Required: M	Implemented: Yes

Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	7	6	5	4	3	2	1	0
0	16							
1	2							
2	1							

Parameter assembly name: Serial data: acyclic read service response (ID-String)				Access: W		Required: M		Implemented: Yes
Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	15	14	13	12	11	10	9	8
	7	6	5	4	3	2	1	0
0	80							
1	1 (Vendor ID)							
2								
3	3 (Product ID)							
4								
5	1	0	1	0	0	0	0	0
6	0				5			

Parameter assembly name: Serial data: acyclic read service response (Diagnosis)				Access: W		Required: M		Implemented: Yes
Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	7	6	5	4	3	2	1	0
0	80							
1	(diagnosis)							

Parameter assembly name: Serial data: acyclic read service response (Parameter)				Access: W		Required: M		Implemented: Yes
Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	7	6	5	4	3	2	1	0
0	80							
1	(Parameter data)							

Parameter assembly name: Serial data: acyclic read service response not ok				Access: W		Required: M		Implemented: Yes
Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	7	6	5	4	3	2	1	0
0	144							
1	error code							

Parameter assembly name: Serial data: acyclic write service request (Parameter)				Access: W		Required: M		Implemented: Yes
Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	7	6	5	4	3	2	1	0
0	17							
1	2							
2	1							
3	(Parameter data)							

Parameter assembly name: Serial data: acyclic write service response				Access: W		Required: M		Implemented: Yes
Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	7	6	5	4	3	2	1	0
0	81							

Parameter assembly name: Serial data: acyclic write service response not ok				Access: W		Required: M		Implemented: Yes
Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	7	6	5	4	3	2	1	0
0	145							
1	error code							

Parameter assembly name: Serial data: Put cyclic data to slave				Access: W		Required: M		Implemented: Yes
Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	7	6	5	4	3	2	1	0
0	1							
1	Index for first row (3..127)							
2	Index for second row (3..127)							

Parameter assembly name: Serial data: acyclic write service request (display data)				Access: W		Required: M		Implemented: Yes
Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	7	6	5	4	3	2	1	0
0	17							
1	3							
2	16							
3	1st character of input string (first row)							
4	2nd character of input string (first row)							
5	3rd character of input string (first row)							
6	4th character of input string (first row)							
7	5th character of input string (first row)							
8	6th character of input string (first row)							
9	7th character of input string (first row)							
10	8th character of input string (first row)							
11	9th character of input string (first row)							
12	10th character of input string (first row)							
13	11th character of input string (first row)							
14	12th character of input string (first row)							
15	13th character of input string (first row)							
16	14th character of input string (first row)							
17	15th character of input string (first row)							
18	16th character of input string (first row)							

Parameter assembly name: Serial data: acyclic write service request (display data)				Access: W		Required: M		Implemented: Yes
Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	7	6	5	4	3	2	1	0
0	17							
1	4							
2	16							
3	1st character of input string (second row)							
4	2nd character of input string (second row)							
5	3rd character of input string (second row)							
6	4th character of input string (second row)							
7	5th character of input string (second row)							
8	6th character of input string (second row)							
9	7th character of input string (second row)							
10	8th character of input string (second row)							
11	9th character of input string (second row)							
12	10th character of input string (second row)							
13	11th character of input string (second row)							
14	12th character of input string (second row)							
15	13th character of input string (second row)							
16	14th character of input string (second row)							
17	15th character of input string (second row)							
18	16th character of input string (second row)							

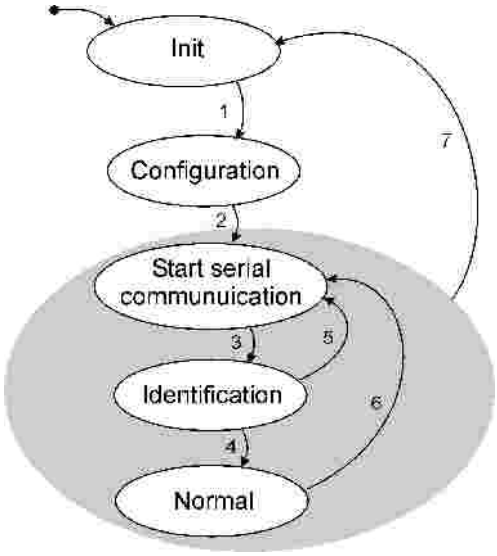
Parameter assembly name: Serial data: acyclic write service request (store data)				Access: W		Required: M		Implemented: Yes
Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	7	6	5	4	3	2	1	0
0	17							
1	(5..127)							
2	16							
3	1st character of input string							
4	2nd character of input string							
5	3rd character of input string							
6	4th character of input string							
7	5th character of input string							
8	6th character of input string							
9	7th character of input string							
10	8th character of input string							
11	9th character of input string							
12	10th character of input string							
13	11th character of input string							
14	12th character of input string							
15	13th character of input string							
16	14th character of input string							
17	15th character of input string							
18	16th character of input string							

Error Code	Meaning
0	no error
1	illegal index
2	illegal length
3	request not implemented
4	busy (request was not executed within timeframe; please try again later)

Device Behaviour (Manufacturer-specific)

State Model (Root Device Profile)

Statechart Diagram



State Transition Table

State Name	State Description
initialisation	initial state of the device upon poiwer-up. The device switches all outputs into off-state.
configuration	The device is available for all AS-i commands except "Data_Exchange". The device is waiting for a command "Write_Parameter"
start serial communication	The device is waiting for the master to initialise serial data communication. Binary data bits are valid.
identification	The device is waiting for the message "Get ID". It will not respond to any other message.
normal	The device is available for automatic operation.

Transition	Initial State	Final State	Transition Condition
1	initialisation	configuration	initialisation performed without error
2	configuration	start serial comm.	"Write_Parameter" received and processed without error
3	start serial comm.	identification	serial communication successfully established
4	identification	normal	Get ID and ID-String messages exchanged
5	identification	start serial comm.	serial communication error (e.g. timeout)
6	normal	start serial comm.	serial communication error (e.g. timeout)
7		initialisation	timeout of data communication (>40ms without "Data_Exchange")