

Technical Description		
AS-Interface display module	Article No. AM004	

Appendix: Device Profile according to IEC 61915-1

Manufacturer's Device Profile Header			
Manufacturer's device profile ID: 0005	Manufacturer's device profile description: Rev. 0.1	Manufacturer's device profile version: V 0.1	Manufacturer's device profile release date: 2004-10-10
Manufacturer ID: 0001	Model compatibility: <????????>	Software compatibility: <????????>	Hardware compatibility: <????????>
Profile type: Display	Profile availability: no	Additional information:	

Root device profile ID: n.a.		Root device profile version: n.a.					
Parameter name	Data type	Units	Offset	Multiplier	Range	Access	Parameter Description
Output string	STRING	na	na	na	na	W	string to be displayed or stored (1 line of 8 characters)
Output number	BCD	na	na	na	-999 to 9999	W	BCD coded number to be displayed at the position &&&& in the string
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

Parameter Assemblies (Manufacturer-specific)									
Parameter assembly name: 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: 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: acyclic read service request (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								



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Parameter assembly name: 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
	7	6	5	4	3	2	1
0	80						
1							
2	1 (Vendor ID)						
3							
4	5 (Product ID)						
5	1	1	0	1	0	0	0
6	0			1			
Parameter assembly name: 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	80						
1	(diagnosis)						
Parameter assembly name: 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	80						
1	(Parameter data)						
Parameter assembly name: 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	144						
1	error code						
Parameter assembly name: 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	81						
Parameter assembly name: 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	145						
1	error code						
Parameter assembly name: Put cyclic data to slave (display data)		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
	7	6	5	4	3	2	1
0	1						
1							
2	BCD coded number (-999 to 9999)						

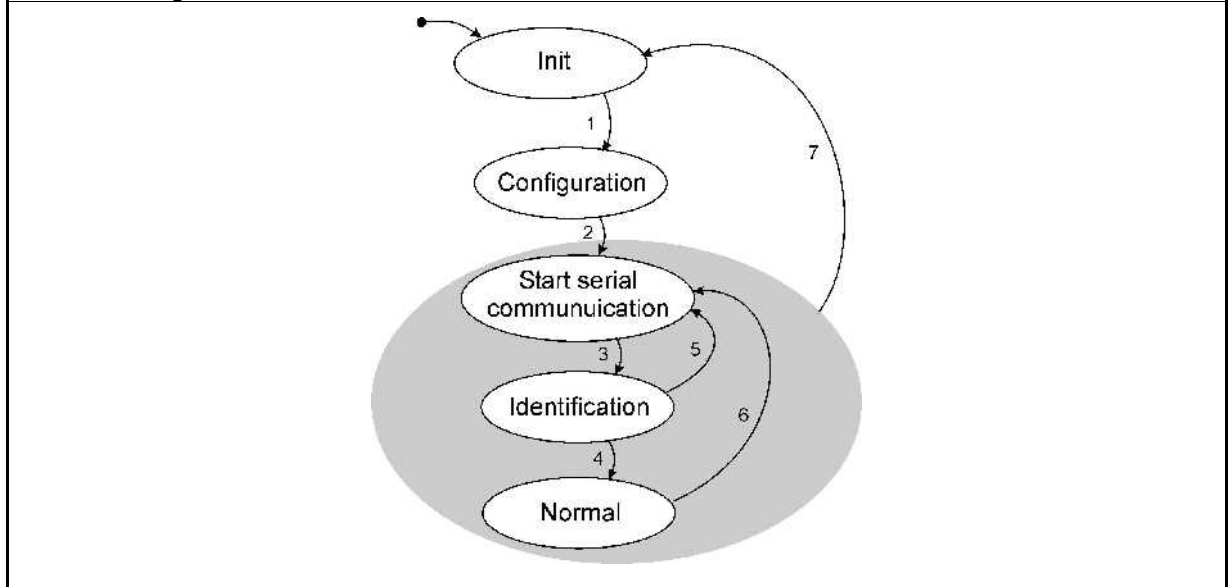
Parameter assembly name: acyclic write service request (store data in EEPROM)		Access: W	Required: M	Implemented: Yes				
Byte	Bits: (0-7 for byte constructions; 0-15 for word constructions)							
	7	6	5	4	3	2	1	0
0	17							
1	2							
2	8							
3	1 st character of output string							
4	2 nd character of output string							
5	3 rd character of output string							
6	4 th character of output string							
7	5 th character of output string							
8	6 th character of output string							
9	7 th character of output string							
10	8 th character of output string							

Parameter assembly name: acyclic write service request (display data directly)		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	8							
3	1 st character of output string							
4	2 nd character of output string							
5	3 rd character of output string							
6	4 th character of output string							
7	5 th character of output string							
8	6 th character of output string							
9	7 th character of output string							
10	8 th character of output string							

Device Behaviour (Manufacturer-specific)

State Model (Root Device Profile)

Statechart Diagram





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State Transition Table			
State Name		State Description	
initialisation		initial state of the device upon power-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")

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)

BCD Code	Meaning
0..9	1 digit number
A	" " (Space)
B	"+" (Plus)
C	"," (Komma)
D	"-" (Minus)
E	"." (Decimal Point)
F	"/" (Slash)