

24/7 ASSET MONITORING SOLUTION ENERGY

AMS01 MODBUS TABLE**SENSeOR (head office)**

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ISO 9001:2015

BUREAU VERITAS
Certification

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OVERVIEW

The AMS01 Modbus table described in this document is the **version 1.1.0**. The registers described are intended for AMS01 readers with AMS01 compatibility mode applied.

Modbus-TCP port: **502**.

Default Modbus-RTU address is printed on the reader's serialization label.

MODBUS REGISTERS

Description	Register number	Data type	Min. value	Max. value	Default value	Meaning	
INPUT REGISTERS (READ ONLY)							
TEMPERATURE SENSORS DATA							
Antenna pair 1	Sensor #01	30001	Signed	-300 (for °C)	1 500 (for °C)	-32 768	1/10°
	Sensor #02	30002					
	Sensor #03	30003					
	Sensor #04	30004					
	Sensor #05	30005					
	Sensor #06	30006					
	Sensor #07	30007					
	Sensor #08	30008					
	Sensor #09	30009					
Antenna pair 2	Sensor #01	30010					
	Sensor #02	30011					
	Sensor #03	30012					
	Sensor #04	30013					
	Sensor #05	30014					
	Sensor #06	30015					
	Sensor #07	30016					
	Sensor #08	30017					
	Sensor #09	30018					
Antenna pair 3	Sensor #01	30019					
	Sensor #02	30020					
	Sensor #03	30021					
	Sensor #04	30022					
	Sensor #05	30023					
	Sensor #06	30024					
	Sensor #07	30025					
	Sensor #08	30026					
	Sensor #09	30027					

Antenna pair 4	Sensor #01	30028					
	Sensor #02	30029					
	Sensor #03	30030					
	Sensor #04	30031					
	Sensor #05	30032					
	Sensor #06	30033					
	Sensor #07	30034					
	Sensor #08	30035					
	Sensor #09	30036					
Antenna pair 5	Sensor #01	30037					
	Sensor #02	30038					
	Sensor #03	30039					
	Sensor #04	30040					
	Sensor #05	30041					
	Sensor #06	30042					
	Sensor #07	30043					
	Sensor #08	30044					
	Sensor #09	30045					

 **ENVIRONMENTAL SENSOR DATA**

Ambient temperature	30136	Signed	-450 (for °C)	1 750 (for °C)	-32 768	1/10°
Humidity	30137	Unsigned	0	1 000	65 535	1/10 %rH
Dew point	30138	Signed	-450 (for °C)	1 750 (for °C)	-32 768	1/10°

 **PARTIAL DISCHARGE PROBES DATA FOR OFFSET LEVEL VALUE = 3**

Antenna pair 1	PD indicator code	31000	Unsigned	0	3	65 535	see Table 5
	Ratio	31001			65 534		1/10 dB
	EPPC	31002			65 534		1/10 peaks/cycle
	PD level (2 registers)	31003 31004			4 275 240 658	4 294 967 295	1/10 a.u.
Antenna pair 2	PD indicator code	31009	Unsigned	0	3	65 535	see Table 5
	Ratio	31010			65 534		1/10 dB
	EPPC	31011			65 534		1/10 peaks/cycle
	PD level (2 registers)	31012 31013			4 275 240 658	4 294 967 295	1/10 a.u.
Antenna pair 3	PD indicator code	31018	Unsigned	0	3	65 535	see Table 5
	Ratio	31019			65 534		1/10 dB
	EPPC	31020			65 534		1/10 peaks/cycle
	PD level (2 registers)	31021 31022			4 275 240 658	4 294 967 295	1/10 a.u.
Antenna pair 4	PD indicator code	31027	Unsigned	0	3	65 535	see Table 5
	Ratio	31028			65 534		1/10 dB
	EPPC	31029			65 534		1/10 dB
	PD level (2 registers)	31030 31031			4 275 240 658	4 294 967 295	1/10 a.u.
Antenna pair 5	PD indicator code	31036	Unsigned	0	3	65 535	see Table 5

	Ratio	31037			65 534		1/10 dB		
	EPPC	31038			65 534		1/10 peaks/cycle		
	PD level (2 registers)	31039 31040			4 275 240 658	4 294 967 295	1/10 a.u.		
PARTIAL DISCHARGE PROBES DATA FOR OFFSET LEVEL VALUE = 2*									
Antenna pair 1	PD indicator code	31045	Unsigned	0	3	65 535	see Table 5		
	Ratio	31046			65 534		1/10 dB		
	EPPC	31047			65 534		1/10 peaks/cycle		
	PD level (2 registers)	31048 31049			4 275 240 658		4 294 967 295	1/10 a.u.	
Antenna pair 2	PD indicator code	31054					3	65 535	see Table 5
	Ratio	31055					65 534		1/10 dB
	EPPC	31056					65 534		1/10 peaks/cycle
	PD level (2 registers)	31057 31058					4 275 240 658		4 294 967 295
Antenna pair 3	PD indicator code	31063					3	65 535	see Table 5
	Ratio	31064					65 534		1/10 dB
	EPPC	31065					65 534		1/10 peaks/cycle
	PD level (2 registers)	31066 31067					4 275 240 658		4 294 967 295
Antenna pair 4	PD indicator code	31072					3	65 535	see Table 5
	Ratio	31073					65 534		1/10 dB
	EPPC	31074					65 534		1/10 dB
	PD level (2 registers)	31075 31076					4 275 240 658		4 294 967 295
Antenna pair 5	PD indicator code	31081			3	65 535	see Table 5		
	Ratio	31082			65 534		1/10 dB		
	EPPC	31083			65 534		1/10 peaks/cycle		
	PD level (2 registers)	31084 31085			4 275 240 658		4 294 967 295	1/10 a.u.	
PARTIAL DISCHARGE PROBES DATA FOR OFFSET LEVEL VALUE = 1*									
Antenna pair 1	PD indicator code	31090	Unsigned	0	3	65 535	see Table 5		
	Ratio	31091			65 534		1/10 dB		
	EPPC	31092			65 534		1/10 peaks/cycle		
	PD level (2 registers)	31093 31094			4 275 240 658		4 294 967 295	1/10 a.u.	
Antenna pair 2	PD indicator code	31099					3	65 535	see Table 5
	Ratio	31100					65 534		1/10 dB
	EPPC	31101					65 534		1/10 peaks/cycle
	PD level (2 registers)	31102 31103					4 275 240 658		4 294 967 295
Antenna pair 3	PD indicator code	31108					3	65 535	see Table 5
	Ratio	31109					65 534		1/10 dB
	EPPC	31110					65 534		1/10 peaks/cycle

* Modbus registers available from AMS01 firmware v1.10.2.0

	PD level (2 registers)	31111 31112			4 275 240 658	4 294 967 295	1/10 a.u.
Antenna pair 4	PD indicator code	31117			3	65 535	see Table 5
	Ratio	31118			65 534		1/10 dB
	EPPC	31119			65 534		1/10 dB
	PD level (2 registers)	31120 31121			4 275 240 658	4 294 967 295	1/10 a.u.
Antenna pair 5	PD indicator code	31126			3	65 535	see Table 5
	Ratio	31127			65 534		1/10 dB
	EPPC	31128			65 534		1/10 peaks/cycle
	PD level (2 registers)	31129 31130			4 275 240 658	4 294 967 295	1/10 a.u.

TEMPERATURE NOTIFIERS

Global temperature notifier indicator			32000	Unsigned	0	2	65 535	see Table 6
Notifier #01	Overheating status	32001						
	Deviation status	32002						
Notifier #02	Overheating status	32003						
	Deviation status	32004						
Notifier #03	Overheating status	32005						
	Deviation status	32006						
Notifier #04	Overheating status	32007						
	Deviation status	32008						
Notifier #05	Overheating status	32009						
	Deviation status	32010						
Notifier #06	Overheating status	32011						
	Deviation status	32012						
Notifier #07	Overheating status	32013						
	Deviation status	32014						
Notifier #08	Overheating status	32015						
	Deviation status	32016						
Notifier #09	Overheating status	32017						
	Deviation status	32018						
Notifier #10	Overheating status	32019						
	Deviation status	32020						

PARTIAL DISCHARGE NOTIFIERS

Global PD notifier indicator			33000	Signed	0	3	65 535	see Table 7
Notifier #01	PD indicator	33001						
	PD indicator	33002						
Notifier #03	PD indicator	33003						
	PD indicator	33004						
Notifier #05	PD indicator	33005						

READER DATA

Serial number	39001	String (11)	-	-	Ex: 'Q2A11120074'	
Constructor	39012	String (7)	-	-		SENSeOR
Type	39019	String (10)	-	-		see Table 1

Hardware version		39029	String (2)	-	-	Ex: 'AF'	
Firmware version	Major	39031	Unsigned	0	65 535		Ex: '1.7.1.0'
	Minor	39032					
	Patch	39033					
	Type	39034					
Modbus table version	Major	39035				Ex: '1.1.0'	
	Minor	39036					
	Patch	39037					

HOLDING REGISTERS							
READER SETTINGS							
Modbus-RTU	Address	40001	Unsigned	1	247	65 535	Reader S/N + 1
	Speed code	40002		0	7		see Table 2
	Parity code	40003		0	2		see Table 3
	Stop bits	40004		0	3		
	Temperature unit code	40005		0	1		see Table 4
IP address	Byte 0	40006	Unsigned	0	255	10	Depends of S/N
	Byte 1	40007				200	
	Byte 2	40008					
	Byte 3	40009					
Subnet mask	Byte 0	40010	Unsigned	0	255	255	
	Byte 1	40011				255	
	Byte 2	40012				0	
	Byte 3	40013				0	
Default gateway	Byte 0	40014	Unsigned	0	255	10	
	Byte 1	40015				200	
	Byte 2	40016				0	
	Byte 3	40017				1	

NOTE

FOR LEGACY MODBUS TABLES, PLEASE CONTACT THE SENSEOR SUPPORT SUPPORT.SENSOR@WIKA.COM.

Table 1: Reader type code

Type	Description
AMS01-T	Temperature monitoring only
AMS01-P	Partial discharge monitoring only
AMS01-TP	Temperature & partial discharge monitoring

Table 2: Modbus speed code

Register value	Baud rate (bps)
0	9 600
1	19 200 (default value)
2	38 400
3	57 600
4	115 200

Table 3: Modbus parity code

Register value	Parity
0	None (default value)
1	Odd
2	Even

Table 4: Temperature unit code

Register value	Configuration
0	Celsius (default value)
1	Fahrenheit

Table 5: Partial discharge indicator code

Register value	Configuration
0	No presence
1	Presence
2	Warning
3	Alert

Table 6: Temperature notifier indicator code

Register value	Configuration
0	No concern
1	At least one notifier has warning level reached
2	At least one notifier has alert level reached

Table 7: Partial discharge notifier indicator code

Register value	Configuration
0	No concern
1	At least one notifier has low activity detected
2	At least one notifier has medium activity detected
3	At least one notifier has high activity detected