

LaSpaziale S50-QSS Robot Version

Date	Version	Modified by	Modify Object	Controllato da
04/06/2025		1 Alessio B.	Initial Implementation	

S50 - QSS Robot Modbus Protocol

Serial Communication RS232 on S50 Connector M17 (SER2)

Communication Speed : 9600 bps

Number of bits for single data : 8 bits

Parity : None

Stop bits : 1 stop bit

MODBUS-RTU

Node Address : 0x01 (=1 decimal)

Available Functions : 0x03 (=3 decimal)(Read Multiple Registers)

0x10 (=16 decimal)(Write Multiple Registers)

0x17 (=23 decimal)(Read/Write Multiple Registers)

Group 0: Identifying						
INT #	HEX	Type	Read/Write	Len	Description	Notes
0	1	0 char[20]	RW	20	Serial	Board Serial Number
10	11	A unsigned	R	2	Logika Control Modbus controller model	0x1000
11	12	B char[2]	R	2	Firmware release	low byte = minor release, High byte = major release
12	13	C unsigned	R	2	Modbus Protocol Release	starting from 0x0001
Group 1: Coffee Machine State						
INT #	HEX	Type	Read/Write	Len	Description	Notes
256	1	100 int	R	2	Group 1 Selection	bit a bit: b00: 1 = Single Short Coffee delivery ongoing b01: 1 = Single Long Coffee delivery ongoing b02: 1 = Double Short Coffee delivery ongoing b03: 1 = Double Long Coffee delivery ongoing b04: 1 = Continuous Free Flow Coffee delivery ongoing (chosen only by group display) b05: 1 = Single Medium Coffee delivery ongoing b06: 1 = Double Medium Coffee delivery ongoing b07: 1 = PURGE delivery ongoing b08: always zero b09: always zero b10: always zero b11: always zero b12: always zero b13: always zero b14: always zero b15: always zero
257	2	101 int	R	2	Group 2 Selection	bit a bit: b00: 1 = Single Short Coffee delivery ongoing b01: 1 = Single Long Coffee delivery ongoing b02: 1 = Double Short Coffee delivery ongoing b03: 1 = Double Long Coffee delivery ongoing b04: 1 = Continuous Free Flow Coffee delivery ongoing (chosen only by group display) b05: 1 = Single Medium Coffee delivery ongoing b06: 1 = Double Medium Coffee delivery ongoing b07: 1 = PURGE delivery ongoing b08: always zero b09: always zero b10: always zero b11: always zero b12: always zero b13: always zero b14: always zero b15: always zero
258	2	102 int	R	2	Group 3 Selection	bit a bit: b00: 1 = Single Short Coffee delivery ongoing b01: 1 = Single Long Coffee delivery ongoing b02: 1 = Double Short Coffee delivery ongoing b03: 1 = Double Long Coffee delivery ongoing b04: 1 = Continuous Free Flow Coffee delivery ongoing (chosen only by group display) b05: 1 = Single Medium Coffee delivery ongoing b06: 1 = Double Medium Coffee delivery ongoing b07: 1 = PURGE delivery ongoing b08: always zero b09: always zero b10: always zero b11: always zero b12: always zero b13: always zero b14: always zero b15: always zero
259	2	103 int	R	2	Group 4 Selection	bit a bit: b00: 1 = Single Short Coffee delivery ongoing b01: 1 = Single Long Coffee delivery ongoing b02: 1 = Double Short Coffee delivery ongoing b03: 1 = Double Long Coffee delivery ongoing b04: 1 = Continuous Free Flow Coffee delivery ongoing (chosen only by group display) b05: 1 = Single Medium Coffee delivery ongoing b06: 1 = Double Medium Coffee delivery ongoing b07: 1 = PURGE delivery ongoing b08: always zero b09: always zero b10: always zero b11: always zero b12: always zero b13: always zero b14: always zero b15: always zero
260	3	104 int	R	2	Hall Volumetric Sensor Group 1 Fault	= 0 => NO FAULT = 1 => Fault on Group Sensor
261	4	105 int	R	2	Hall Volumetric Sensor Group 2 Fault	= 0 => NO FAULT = 1 => Fault on Group Sensor
262	5	106 int	R	2	Hall Volumetric Sensor Group 3 Fault	= 0 => NO FAULT = 1 => Fault on Group Sensor
263	6	107 int	R	2	Hall Volumetric Sensor Group 4 Fault	= 0 => NO FAULT = 1 => Fault on Group Sensor
264	7	108 int	R	2	Seconds of Countdown to Automatic EGS (Automatic PURGE)(near zero seconds DO NOT deliver Coffee) Group 1	Value = seconds to periodic (30 minutes + 30 seconds) automatic purge of 0,3 seconds
265	8	109 int	R	2	Seconds of Countdown to Automatic EGS (Automatic PURGE)(near zero seconds DO NOT deliver Coffee) Group 2	Value = seconds to periodic (30 minutes + 30 seconds) automatic purge of 0,3 seconds
266	9	10A int	R	2	Seconds of Countdown to Automatic EGS (Automatic PURGE)(near zero seconds DO NOT deliver Coffee) Group 3	Value = seconds to periodic (30 minutes + 30 seconds) automatic purge of 0,3 seconds
267	10	10B int	R	2	Seconds of Countdown to Automatic EGS (Automatic PURGE)(near zero seconds DO NOT deliver Coffee) Group 4	Value = seconds to periodic (30 minutes + 30 seconds) automatic purge of 0,3 seconds

268	11	10C	int	R		2	Coffee Machine Configuration sent to groups	bit a bit: b01-b00: 00 = 4 doses available for every groups 01 = 6 doses available for every groups 10 = 2 doses available for every groups 11 = NOT USED CONFIGURATION b02: always zero b03: always zero b04: always zero b05: always zero b06: always zero b07: always zero b08: always zero b09: always zero b10: always zero b11: always zero b12: always zero b13: always zero b14: always zero b15: always zero
269	12	10D	int	R		2	Coffee Machine Blocked	= 1 ==> BLOCKED (no deliveries possible)
270	13	10E	int	R		2	Total Number of Groups Present on the Coffee Machine	possible values : 1 , 2 , 3 , (4 not at the moment)
Group 2: Commands								
INT #	HEX	Type	Read/Write	Len	Description	Notes		
512	1	200	int	RW	2	Group 1 Delivery Command	with value 1=0x0001 1 Single Short Coffee with value 2=0x0002 1 Single Long Coffee with value 4=0x0004 1 Double Short Coffee with value 8=0x0008 1 Double Long Coffee with value 16=0x0010 NO delivering (NO ACTION) with value 32=0x0020 1 Single Medium Coffee with value 64=0x0040 1 Double Medium Coffee with value 128=0x0080 STOP ongoing deliver with value 256=0x0100 START PURGE deliver	
513	2	201	int	RW	2	Group 2 Delivery Command	with value 1=0x0001 1 Single Short Coffee with value 2=0x0002 1 Single Long Coffee with value 4=0x0004 1 Double Short Coffee with value 8=0x0008 1 Double Long Coffee with value 16=0x0010 NO delivering (NO ACTION) with value 32=0x0020 1 Single Medium Coffee with value 64=0x0040 1 Double Medium Coffee with value 128=0x0080 STOP ongoing deliver with value 256=0x0100 START PURGE deliver	
514	3	202	int	RW	2	Group 3 Delivery Command	with value 1=0x0001 1 Single Short Coffee with value 2=0x0002 1 Single Long Coffee with value 4=0x0004 1 Double Short Coffee with value 8=0x0008 1 Double Long Coffee with value 16=0x0010 NO delivering (NO ACTION) with value 32=0x0020 1 Single Medium Coffee with value 64=0x0040 1 Double Medium Coffee with value 128=0x0080 STOP ongoing deliver with value 256=0x0100 START PURGE deliver	
515	4	203	int	RW	2	Group 4 Delivery Command	with value 1=0x0001 1 Single Short Coffee with value 2=0x0002 1 Single Long Coffee with value 4=0x0004 1 Double Short Coffee with value 8=0x0008 1 Double Long Coffee with value 16=0x0010 NO delivering (NO ACTION) with value 32=0x0020 1 Single Medium Coffee with value 64=0x0040 1 Double Medium Coffee with value 128=0x0080 STOP ongoing deliver with value 256=0x0100 START PURGE deliver	
516	5	204	int	RW	2	H2O Delivery Command	with value 1 delivers SET 1 , with value 2 delivers SET 2 , with value zero stops deliver	
517	6	205	int	RW	2	MAT Delivery Command	with value 1 delivers SET 1 , with value 2 delivers SET 2 , with value zero stops deliver	

2 doses => 1 Single Long Coffee + 1 Double Long Coffee
4 doses => 1 Single Short Coffee + 1 Double Short Coffee +
1 Single Long Coffee + 1 Double Long Coffee
6 doses => 1 Single Short Coffee + 1 Double Short Coffee +
1 Single Medium Coffee + 1 Double Medium Coffee +
1 Single Long Coffee + 1 Double Long Coffee