User Manual

0496 Sniffer Modbus

ENGLISH

Sniffer Modubus for LogiCO2 Safety System.

WARNING!

Please read these instructions carefully prior to start-up and use. These instructions should be saved for future reference and passed on to any subsequent owner. Failure to follow any of these instructions could result in bodily harm or death, and could void product warranties. LogiCO2 International AB, its affiliates and third party providers assume no responsibility for claims arising from improper or careless use or handling of its products. Retain this instruction.

Technical specifications

Power supply:	24V DC, from the alarm system
LED Indications:	See table on page 2
Ambient temperature:	0 to +40°C (+32°F to +102°F)
Cable lenght:	2 x 5 m
Dimensions (LxWxD):	90 x 161 x 38 mm / 3.5" x 6.3" x 1.5"

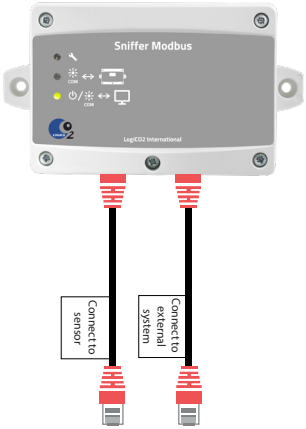
Function

The LogiCO2 Sniffer Modbus is a gateway for reading out measuring values and status (e.g. Alarms) from LogiCO2´s Safety Systems. It is only possible to read-out information from the Sniffer (read only). The Sniffer Modbus is connected to maximum twelve sensors with or without a central unit. The Sniffer is monitoring the communication between the sensor/s and the central unit. If no central unit is installed in the Safety System, the Sniffer Modbus can communicate directly with the Sensor/s. The Sniffer Modbus is intended as a gateway from the LogiCO2 Safety System and communicates via Modbus RTU (RS485) to external systems.
The Sniffer Modbus is power supplied from the LogiCO2 Safety System. Default setting is to read-out one Sensor (ID number 1) that is connected to a central unit.

Installation

Connect the cable marked "Connect to sensor" to one of the LogiCO2 Safety System´s red cables. Use the cable marked "Connect to external system" to connect the gateway RS485 to the external system.

Pinout red cable:

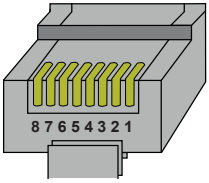


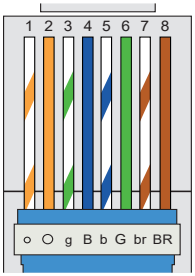
RJ-45 Plug for RS485 Communication

Pin 4 RS485 – (B)

Pin 5 RS485 + (A)

Pin 8 GND





Setup – with or without Central Unit

The default setting of the Sniffer is to communicate with a Safety System together with a Central Unit. To change setting, remove the cover to access the two DIP-switches.

Maintanence

The LogiCO2-Sniffer requires no maintenance.

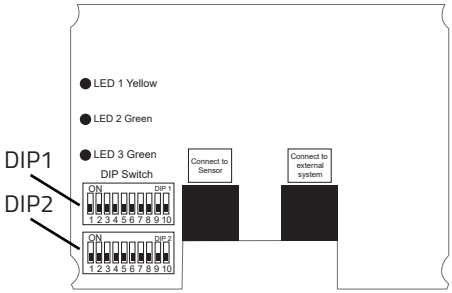
Important

All persons responsible for the use and maintenance of this equipment must read and understand the safety and operating information contained in this guide. Installation and service of this equipment should be performed only by professionals. The function of the equipment will be impaired if it is not properly installed.

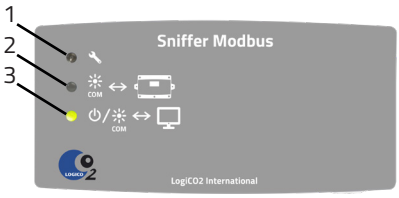
Important information regarding third party products

The functionality of LogiCO2's products are only warranted if connected to LogiCO2's systems and products. LogiCO2 is not liable for the functionality of any systems if LogiCO2 components or parts are connected to third party products. LogiCO2 permits its products to be connected to external relays controlling ventilation and valves as well as fire alarm panels and building management systems.

PCB Layout



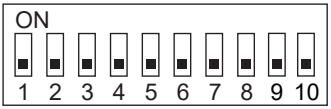
Led Indication



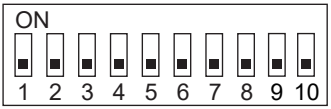
LED	Colour	Information
1	Yellow	Lost communication with sensors
2	Green	Flashing when communicating with sensors
3	Green	Power, flashing when communicating with external system

DIP-Switch settings

DIP-switch 1: For communication with external system.



DIP-switch 2: For communication with LogiCO2 Sensors.



DIP-switch settings, Communication for external system, Sniffer MB ID-address 1-8

Observe! DIP-switch 1, Dip 1-5

ID-address	Dip1:1	Dip1:2	Dip1:3	Dip1:4	Dip1:5	DIP-switch 1
ID1	OFF	OFF	OFF	OFF	OFF	
ID2	ON	OFF	OFF	OFF	OFF	
ID3	OFF	ON	OFF	OFF	OFF	
ID4	ON	ON	OFF	OFF	OFF	
ID5	OFF	OFF	ON	OFF	OFF	
ID6	ON	OFF	ON	OFF	OFF	
ID7	OFF	ON	ON	OFF	OFF	
ID8	ON	ON	ON	OFF	OFF	

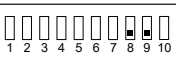
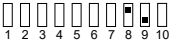
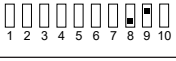
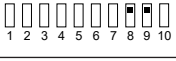
DIP-switch settings, Parity

Observe! DIP-switch 1, Dip 6-7

Parity	Dip1:6	Dip1:7	DIP-switch 1
NONE - 2 stopbit	OFF	OFF	
EVEN - 1 stopbit	ON	OFF	
ODD - 1 stopbit	OFF	ON	
NONE - 1 stopbit	ON	ON	

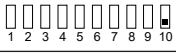
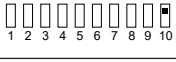
DIP-switch settings, Baud rate

Observe! DIP-switch 1, Dip 8-9

Baud rate	Dip1:8	Dip1:9	DIP-switch 1
9600	OFF	OFF	
19200	ON	OFF	
38400	OFF	ON	
57600	ON	ON	

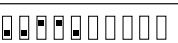
DIP-switch settings, Termination resistor 120 Ω Sensor

Observe! DIP-switch 1, Dip 10

Termination resistor 120 Ω (Sensor communication line)	Dip1:10	DIP-switch 1
Not connected	OFF	
Connected	ON	

DIP-switch settings, Selection of Sensor ID to monitor

Observe! DIP-switch 2, Dip 1-5

ID-address	Dip2:1	Dip2:2	Dip2:3	Dip2:4	Dip2:5	DIP-switch 1
ID1	ON	OFF	OFF	OFF	OFF	
ID2	OFF	ON	OFF	OFF	OFF	
ID3	ON	ON	OFF	OFF	OFF	
ID4	OFF	OFF	ON	OFF	OFF	
ID5	ON	OFF	ON	OFF	OFF	
ID6	OFF	ON	ON	OFF	OFF	
ID7	ON	ON	ON	OFF	OFF	
ID8	OFF	OFF	OFF	ON	OFF	
ID9	ON	OFF	OFF	ON	OFF	
ID10	OFF	ON	OFF	ON	OFF	
ID11	ON	ON	OFF	ON	OFF	
ID12	OFF	OFF	ON	ON	OFF	

DIP-switch settings, Selection of Modbus Master/Slave

Observe! DIP-switch 2, Dip 9

Modbus Master/Slave	Dip2:9	DIP-switch 2
Slave	OFF	
Master	ON	

DIP-switch settings, Termination resistor 120 Ω External

Observe! DIP-switch 2, Dip 10

Termination resistor 120 Ω (External communication line)	Dip2:10	DIP-switch 2
Not connected	OFF	
Connected	ON	

Input Register

IR address	Register content	Read/Write
3x0001	Sensor #1 CO2 value	R
3x0002	Sensor #1 TWA value	R
3x0003	Sensor #1 Temp value (°C)	R
3x0004	Sensor #1 Temp value (°F)	R
3x0005	Sensor #1 Sensor Type*	R
3x0006	Sensor #2 CO2 value	R
3x0007	Sensor #2 TWA value	R
3x0008	Sensor #2 Temp value (°C)	R
3x0009	Sensor #2 Temp value (°F)	R
3x0010	Sensor #2 Sensor Type*	R
3x0011	Sensor #3 CO2 value	R
3x0012	Sensor #3 TWA value	R
3x0013	Sensor #3 Temp value (°C)	R
3x0014	Sensor #3 Temp value (°F)	R
3x0015	Sensor #3 Sensor Type*	R
3x0016	Sensor #4 CO2 value	R
3x0017	Sensor #4 TWA value	R
3x0018	Sensor #4 Temp value (°C)	R
3x0019	Sensor #4 Temp value (°F)	R
3x0020	Sensor #4 Sensor Type*	R
3x0021	Sensor #5 CO2 value	R
3x0022	Sensor #5 TWA value	R
3x0023	Sensor #5 Temp value (°C)	R
3x0024	Sensor #5 Temp value (°F)	R
3x0025	Sensor #5 Sensor Type*	R
3x0026	Sensor #6 CO2 value	R
3x0027	Sensor #6 TWA value	R
3x0028	Sensor #6 Temp value (°C)	R
3x0029	Sensor #6 Temp value (°F)	R
3x0030	Sensor #6 Sensor Type*	R
3x0031	Sensor #7 CO2 value	R
3x0032	Sensor #7 TWA value	R

IR address	Register content	Read/Write
3x0033	Sensor #7 Temp value (°C)	R
3x0034	Sensor #7 Temp value (°F)	R
3x0035	Sensor #7 Sensor Type*	R
3x0036	Sensor #8 CO2 value	R
3x0037	Sensor #8 TWA value	R
3x0038	Sensor #8 Temp value (°C)	R
3x0039	Sensor #8 Temp value (°F)	R
3x0040	Sensor #8 Sensor Type*	R
3x0041	Sensor #9 CO2 value	R
3x0042	Sensor #9 TWA value	R
3x0043	Sensor #9Temp value (°C)	R
3x0044	Sensor #9Temp value (°F)	R
3x0045	Sensor #9 Sensor Type*	R
3x0046	Sensor #10CO2 value	R
3x0047	Sensor #10TWA value	R
3x0048	Sensor #10 Temp value (°C)	R
3x0049	Sensor #9 Temp value (°F)	R
3x0050	Sensor #10Sensor Type*	R
3x0051	Sensor #11 CO2 value	R
3x0052	Sensor #11TWA value	R
3x0053	Sensor #11 Temp value (°C)	R
3x0054	Sensor #11 Temp value (°F)	R
3x0055	Sensor #11 Sensor Type*	R
3x0056	Sensor #12 CO2 value	R
3x0057	Sensor #12 TWA value	R
3x0058	Sensor #12 Temp value (°C)	R
3x0059	Sensor #12 Temp value (°F)	R
3x0060	Sensor #12 Sensor Type*	R

***Sensor Type:**

0 = CO2

1 = O2

2 = Grow

Modbus register - Discrete Inputs

ID 1	ID 2	ID 3	ID 4	ID 5	ID 6	Register content
1x0001	1x0025	1x0049	1x0073	1x0097	1x0121	CO2 Alarm B (Low)
1x0002	1x0026	1x0050	1x0074	1x0098	1x0122	CO2 Alarm A (High)
1x0003	1x0027	1x0051	1x0075	1x0099	1x0123	TWA Alarm
1x0004	1x0028	1x0052	1x0076	1x0100	1x0124	Temp alarm high
1x0005	1x0029	1x0053	1x0077	1x0101	1x0125	Temp alarm low
1x0006	1x0030	1x0054	1x0078	1x0102	1x0126	Res
1x0007	1x0031	1x0055	1x0079	1x0103	1x0127	Res
1x0008	1x0032	1x0056	1x0080	1x0104	1x0128	Res
1x0009	1x0033	1x0057	1x0081	1x0105	1x0129	Fatal error
1x0010	1x0034	1x0058	1x0082	1x0106	1x0130	Offset error
1x0011	1x0035	1x0059	1x0083	1x0107	1x0131	Algorithm error
1x0012	1x0036	1x0060	1x0084	1x0108	1x0132	Output error
1x0013	1x0037	1x0061	1x0085	1x0109	1x0133	SD error
1x0014	1x0038	1x0062	1x0086	1x0110	1x0134	Out of range
1x0015	1x0039	1x0063	1x0087	1x0111	1x0135	Mem error
1x0016	1x0040	1x0064	1x0088	1x0112	1x0136	Heating
1x0017	1x0041	1x0065	1x0089	1x0113	1x0137	Sensor type
1x0018	1x0042	1x0066	1x0090	1x0114	1x0138	Sensor error
1x0019	1x0043	1x0067	1x0091	1x0115	1x0139	Communication error
1x0020	1x0044	1x0068	1x0092	1x0116	1x0140	Online
1x0021	1x0045	1x0069	1x0093	1x0117	1x0141	Res
1x0022	1x0046	1x0070	1x0094	1x0118	1x0142	Res
1x0023	1x0047	1x0071	1x0095	1x0119	1x0143	Res
1x0024	1x0048	1x0072	1x0096	1x0120	1x0144	Res

Value range - 0 or 1
Read/Write - R

Modbus register - Discrete Inputs

ID 7	ID 8	ID 9	ID 10	ID 11	ID 12	Register content
1x0145	1x0169	1x0193	1x0217	1x0241	1x0265	CO2 Alarm B (Low)
1x0146	1x0170	1x0194	1x0218	1x0242	1x0266	CO2 Alarm A (High)
1x0147	1x0171	1x0195	1x0219	1x0243	1x0267	TWA Alarm
1x0148	1x0172	1x0196	1x0220	1x0244	1x0268	Temp alarm high
1x0149	1x0173	1x0197	1x0221	1x0245	1x0269	Temp alarm low
1x0150	1x0174	1x0198	1x0222	1x0246	1x0270	Res
1x0151	1x0175	1x0199	1x0223	1x0247	1x0271	Res
1x0152	1x0176	1x0200	1x0224	1x0248	1x0272	Res
1x0153	1x0177	1x0201	1x0225	1x0249	1x0273	Fatal error
1x0154	1x0178	1x0202	1x0226	1x0250	1x0274	Offset error
1x0155	1x0179	1x0203	1x0227	1x0251	1x0275	Algorithm error
1x0156	1x0180	1x0204	1x0228	1x0252	1x0276	Output error
1x0157	1x0181	1x0205	1x0229	1x0253	1x0277	SD error
1x0158[1]	1x0182	1x0206	1x0230	1x0254	1x0278	Out of range
1x0159	1x0183	1x0207	1x0231	1x0255	1x0279	Mem error
1x0160	1x0184	1x0208	1x0232	1x0256	1x0280	Heating
1x0161	1x0185	1x0209	1x0233	1x0257	1x0281	Sensor type
1x0162	1x0186	1x0210	1x0234	1x0258	1x0282	Sensor error
1x0163	1x0187	1x0211	1x0235	1x0259	1x0283	Communication error
1x0164	1x0188	1x0212	1x0236	1x0260	1x0284	Online
1x0165	1x0189	1x0213	1x0237	1x0261	1x0285	Res
1x0166	1x0190	1x0214	1x0238	1x0262	1x0286	Res
1x0167	1x0191	1x0215	1x0239	1x0263	1x0287	Res
1x0168	1x0192	1x0216	1x0240	1x0264	1x0288	Res

Value range - 0 or 1

Read/Write - R

Subject to typographical errors and change without prior notice.

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