Modbus RTU
MIRU Control, program version1.00 and newer versions

Overview

ModBus can access single addresses or multiple addresses simultaneously; either reading or writing single bit values or 16-bit values.

A ModBus address contains either a 1-bit discrete value or a 16-bit integer value.

Modbus Data formats

Modbus data types are 1-bit values and 16-bit values.

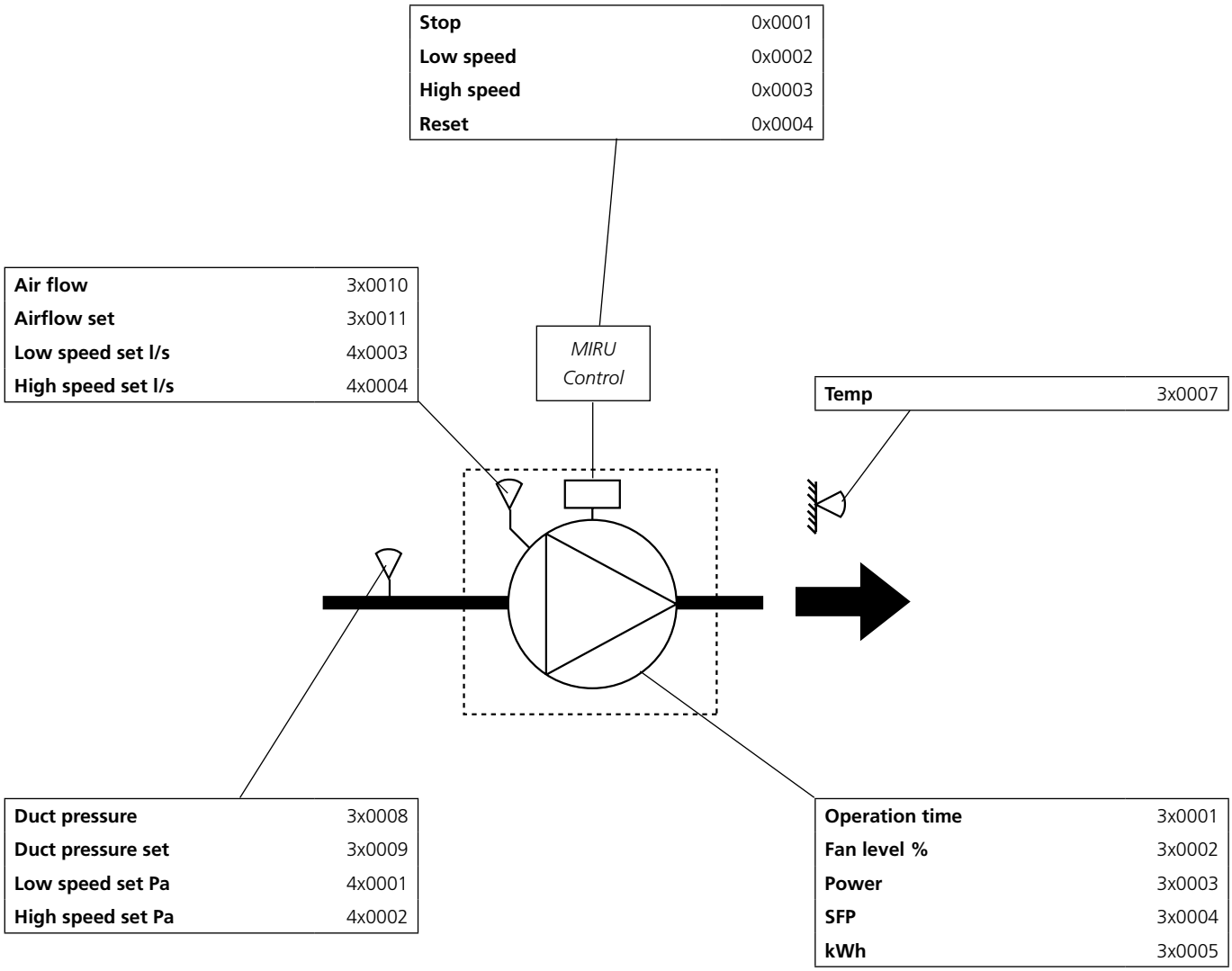
Modbus type	Description	Reference
Coil Status	Discrete Output	0x
Input Status	Discrete Input	1x
Holding Registers	16 bit Output Register	4x
Input Registers	16 bit Input Register	3x

Supported Modbus commands

MIRU Control supports these ModBus commands.

Function code	Description
01	Read Coil Status
02	Read Input Status
03	Read Holding Registers
04	Read Input Registers
05	Force Single Coil
06	Preset Single Register
08	Diagnostic Sub-function 00 Only - Return Query Data (loop back)
15	Force Multiple Coils
16	Preset Multiple Registers

Overview, parameters



Coil Status.

Modbus	Name	Min/Max	Remarks
0x0001	**Stop**	**0-1**	
	Signal to enable stop. 1=Stop.		
0x0002	**Low speed**	**0-1**	
	Signal to enable low speed operation. 1=ON.		
0x0003	**High speed**	**0-1**	
	Signal to enable high speed operation. 1=ON.		
0x0004	**Reset**	**0-1**	
	Signal to reset a released/tripped alarm. 1=Reset.		

Input Status.

Modbus	Name	Min/Max	Remarks
1x0001	**Stop, external**	**0-1**	
	Indication if external stop is active.		
1x0002	**Stop comm.**	**0-1**	
1x0003	**Low speed, external**	**0-1**	
1x0004	**Low speed, comm.**	**0-1**	
1x0005	**Low speed, switch cl.**	**0-1**	
1x0006	**High speed, external**	**0-1**	
1x0007	**High speed, comm.**	**0-1**	
1x0008	**High speed, switch cl.**	**0-1**	
1x0009	**Alarm**	**0-1**	
1x0010	**Manual stop, local**	**0-1**	
	Indication if the controller is stopped by the terminal		
1x0011-1x0016	**Reserved**	**0-1**	
1x0017	**Motor controller error**	**0-1**	
	Sum alarm for fan motor controller		
1x0018	**Motor controller com. error**	**0-1**	
	Communication alarm		
1x0019	**Air flow pressure sensor error**	**0-1**	
	Communication alarm		
1x0020	**Duct pressure sensor error**	**0-1**	
	Communication alarm		
1x0021	**Temp sensor error**	**0-1**	
	Temperature sensor error		
1x0022	**Air flow/pressure deviation**	**0-1**	
	Air flow or pressure below/above set point		

Input register.

Modbus	Name	Min/Max	Remarks
3x0001	**Operation time**	**0..9999**	
	Reading of fan in operation, resolution = 1 day		
3x0002	**Fan level %**	**0..10000**	
	Reading of fan level, resolution = 0,01%		
3x0003	**Power**	**0..6000**	
	Reading of effect level, resolution = 1 W		
3x0004	**SFP**	**0..500**	
	Reading of SFP level, resolution = 0,01		
3x0005	**Meter**	**0..999**	
	Reading of kWh, resolution = 1kWh		
3x0006	**Meter**	**0..32000**	
	Reading of MWh, resolution = 1MWh		
3x0007	**Temp**	**-40..70000**	
	Reading of outdoor or room temperature, resolution = 0,01°C		
3x0008	**Duct pressure**	**0..750**	
	Reading of duct pressure, resolution = 1 Pa		
3x0009	**Duct pressure set**	**0..750**	
	Reading of duct pressure reg. set, resolution = 1 Pa		
3x0010	**Air flow**	**0..10000**	
	Reading of airflow, resolution = 1 l/s		
3x0011	**Air flow set**	**0..10000**	
	Reading of airflow reg. set, resolution = 1 l/s		

Holding register.

Modbus	Name	Min/Max	Remarks
4x0001	**Low speed set Pa**	**0..750**	
	Low speed set point in Pascal, resolution 1 Pa		
4x0002	**High speed set Pa**	**0..750**	
	High speed set point in Pascal, resolution 1 Pa		
4x0003	**Low speed set l/s**	**0..10000**	
	Low speed set point in l/s, resolution 1 l/s		
4x0004	**High speed set l/s**	**0..10000**	
	High speed set point in l/s, resolution 1 l/s		
4x0005-4x009	**Reserved**		
4x0010	**Time channel 1 status**	**0..10** **16..26**	
	Low speed 0=Inactive 1=Monday 2=Tuesday 3=Wednesday 4=Thursday 5=Friday 6=Saturday 7=Sunday 8=Monday..Friday 9=Monday..Sunday 10=Saturday..Sunday **High speed** 16=Inactive 17=Monday 18=Tuesday 19=Wednesday 20=Thursday 21=Friday 22=Saturday 23=Sunday 24=Monday..Friday 25=Monday..Sunday 26=Saturday..Sunday		
4x0011	**Time ch. 1 start hour**	**0-23**	
4x0012	**Time ch. 1 start min.**	**0-59**	
4x0013	**Time ch. 1 stop hour**	**0-23**	
4x0014	**Time ch. 1 stop min.**	**0-59**	
↓↓	↓↓	↓↓	
4x0025	**Time channel 4 status**	**0..10** **16..26**	
4x0026	**Time ch. 4 start hour**	**0-23**	
4x0027	**Time ch. 4 start min.**	**0-59**	
4x0028	**Time ch. 4 stop hour**	**0-23**	
4x0029	**Time ch. 4 stop min.**	**0-59**	
4x35215	**Outdoor compensation On/Off**	**0-1**	
4x35216	**Outdoor compensation X1**	**X**	
4x35217	**Outdoor compensation X2**	**X**	
4x35218	**Outdoor compensation Y1**	**X**	