For the ECOSONIC X12 we have a RS485 interface with Modbus protocol. I send you the Modbus register documentation.

|  |  |  |  |
| --- | --- | --- | --- |
| **Address** | **Type** | **Name** | **Unit / Description** |
| 1508 | FLOAT | flow rate | [m3/h] |
| 1510 | FLOAT | Velocity of Gas | [m/s] |
| 1512 | FLOAT | Speed of Sound | [m/s] |
| 1516 | FLOAT | Temperature | [bar] |
| 1518 | FLOAT | Pressure | [°C] |
| 1146 | U32 | gas volume counter total (forward flow) *V*total\_forward = *V*act\_forward + *V*act\_err\_forward | The integer numbers of register count shall be multiplied by the factor 10-2 m3  Example: 12 = 0.12m3 |
| 1148 | U32 | gas volume counter total (reverse flow) *V*total\_reverse = *V*act\_reverse + *V*act\_err\_reverse | The integer numbers of register count shall be multiplied by the factor 10-2 m3  Example: 12 = 0.12m3 |
| 1138 | U32 | gas volume counter (forward flow)  *V*act\_forward | The integer numbers of register count shall be multiplied by the factor 10-2 m3  Example: 12 = 0.12m3 |
| 1140 | U32 | gas volume counter (reverse flow)  *V*act\_reverse | The integer numbers of register count shall be multiplied by the factor 10-2 m3  Example: 12 = 0.12m3 |
| 1142 | U32 | error gas volume counter (forward flow)  *V*act\_err\_forward | The integer numbers of register count shall be multiplied by the factor 10-2 m3  Example: 12 = 0.12m3 |
| 1144 | U32 | error gas volume counter (reverse flow)  *V*act\_err\_reverse | The integer numbers of register count shall be multiplied by the factor 10-2 m3  Example: 12 = 0.12m3 |
| 1520 | FLOAT | gas volume counter total (forward flow) *V*total\_forward = *V*act\_forward + *V*act\_err\_forward | [m3] |
| 1522 | FLOAT | gas volume counter total (reverse flow) *V*total\_reverse = *V*act\_reverse + *V*act\_err\_reverse | [m3] |
| 1500 | FLOAT | gas volume counter (forward flow)  *V*act\_forward | [m3] |
| 1502 | FLOAT | gas volume counter (reverse flow)  *V*act\_reverse | [m3] |
| 1504 | FLOAT | error gas volume counter (forward flow)  *V*act\_err\_forward | [m3] |
| 1506 | FLOAT | error gas volume counter (reverse flow)  *V*act\_err\_reverse | [m3] |
| 3000 | U16 | System Status | D0: Warming (0 = inactive, 1 = active)  D1: Alarm(0 = inactive, 1 = active) |
| 3002 | U16 | Path 1 status | D0:  Warning SNR (SNR too low) (0 = inactive, 1 = active)  D1:  Warning AGC deviation (AGC deviation limit exceeded) (0 = inactive, 1 = active)  D2:  Warning AGC limit (max. AGC exceeded) (0 = inactive, 1 = active)  D3:  Warning SOS deviation (Warning SOS deviation limit exceeded) (0 = inactive, 1 = active)  D4:  Read signal from DSP (Path signal is read from DSP) (0 = inactive, 1 = active)  D5:  Constant 0  D6:  MAX too big (Maximum signal amplitude too big, bad signal) (0 = inactive, 1 = active)  D7:  Constant 0.  D8:  Constant 0  D9:  Constant 0  D10: Path error (Error of path exceeds limit) (0 = inactive, 1 = active)  D11: SNR exceeds limit (bad signal) (0 = inactive, 1 = active)  D12: Constant 0  D13: Constant 0  D14: Constant 0  D15: Constant 0 |
| 3003 | U16 | Path 2 status |  |
| 3004 | U16 | Path 3 status |  |
| 3005 | U16 | Path 4 status |  |
| 3006 | U16 | Path 5 status |  |
| 3007 | U16 | Path 6 status |  |
| 3008 | U16 | Failure rate of sound path 1 | 0%...100% |
| 3009 | U16 | Failure rate of sound path 2 | 0%...100% |
| 3010 | U16 | Failure rate of sound path 3 | 0%...100% |
| 3011 | U16 | Failure rate of sound path 4 | 0%...100% |
| 3012 | U16 | Failure rate of sound path 5 | 0%...100% |
| 3013 | U16 | Failure rate of sound path 6 | 0%...100% |
| 3014 | U16 | Path 1 direction A AGC level of receiver | [dB] |
| 3015 | U16 | Path 1 direction B AGC level of receiver | [dB] |
| 3016 | U16 | Path 2 direction A AGC level of receiver | [dB] |
| 3017 | U16 | Path 2 direction B AGC level of receiver | [dB] |
| 3018 | U16 | Path 3 direction A AGC level of receiver | [dB] |
| 3019 | U16 | Path 3 direction B AGC level of receiver | [dB] |
| 3020 | U16 | Path 4 direction A AGC level of receiver | [dB] |
| 3021 | U16 | Path 4 direction B AGC level of receiver | [dB] |
| 3022 | U16 | Path 5 direction A AGC level of receiver | [dB] |
| 3023 | U16 | Path 5 direction B AGC level of receiver | [dB] |
| 3024 | U16 | Path 6 direction A AGC level of receiver | [dB] |
| 3025 | U16 | Path 6 direction B AGC level of receiver | [dB] |
| 3026 | FLOAT | Path 1 Speed of sound | [m/s] |
| 3028 | FLOAT | Path 2 Speed of sound | [m/s] |
| 3030 | FLOAT | Path 3 Speed of sound | [m/s] |
| 3032 | FLOAT | Path 4 Speed of sound | [m/s] |
| 3034 | FLOAT | Path 5 Speed of sound | [m/s] |
| 3036 | FLOAT | Path 6 Speed of sound | [m/s] |
| 3062 | FLOAT | Path 1 Direction A SNR |  |
| 3064 | FLOAT | Path 1 Direction B SNR |  |
| 3066 | FLOAT | Path 2 Direction A SNR |  |
| 3068 | FLOAT | Path 2 Direction B SNR |  |
| 3070 | FLOAT | Path 3 Direction A SNR |  |
| 3072 | FLOAT | Path 3 Direction B SNR |  |
| 3074 | FLOAT | Path 4 Direction A SNR |  |
| 3076 | FLOAT | Path 4 Direction B SNR |  |
| 3078 | FLOAT | Path 5 Direction A SNR |  |
| 3080 | FLOAT | Path 5 Direction B SNR |  |
| 3082 | FLOAT | Path 6 Direction A SNR |  |
| 3084 | FLOAT | Path 6 Direction B SNR |  |