

**7016000 Communications Spec.****Action Requests**

**WAKEUP REQUEST** // 1 byte  
byte Type; // Value = 0x01

**EEPROM REQUEST** // 1 byte  
byte Type; // Value = 0x02

**DATA REQUEST** // 7 bytes  
byte Type; // Value = 0x03  
byte Channel; // 0-2  
word SampleRate; // Lo, Hi 5-65535 (Hz)  
word SampleCount; // Lo, Hi 4-32758

**B.1 Additions**  
byte Request Type // 0 – transfer all data, 1 – transfer only status fields (*optional*)  
word Transfer Timeout // (MS)Lo,Hi – if omitted, is using Timeout 2000 MS (*optional*)

**SLEEP REQUEST** // 1 byte  
byte Type; // Value = 0x04

**B.1 Additions**  
**LAST DATA REQUEST** // 1-3 bytes, Response - existing **DATA**  
byte Type // Value = 0x07  
byte Request Type // 0 – transfer all data, 1 – transfer only status fields (*optional*)  
word Transfer Timeout // Value = Sensor transfer timeout, MS, Lo,Hi – (*optional*, if omitted, Timeout is 2000 MS)

**SRAM REQUEST**  
byte Type // Value = 0x08  
word Address // Value = Start SRAM Address (words), Lo,Hi 0-0xFFFF  
word Size // Value = Size of SRAM requested (words), Lo,Hi 1-0xFFFF  
word Transfer Timeout // Value = Sensor transfer timeout, MS, Lo,Hi – (*optional*, if omitted, Timeout is 2000 MS)

**Responses**

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WAKEUP // 16 bytes
byte Serial[8];
time_t Calibrated; // 4 bytes
byte Temperature; // signed, ±127C
byte Reference; // unsigned, Volts=(Reference+250)/100, should be 3.2-3.4
byte SRevNumber; // Value 0x00
char SRevLetter; // Value 'B'

EEPROM // 31 bytes
byte Serial[8];
time_t Calibrated; // 4 bytes
time_t Built; // 4 bytes
byte Model; // Value 0x02
byte HRevNumber; // Value 0x00
char HRevLetter; // Value 'B'
byte SRevNumber; // Value 0x01
char SRevLetter; // Value 'B'
word CalibrID; // Lo, Hi, Value 0xFFFF – Factory Calibration
word X35G; // Lo, Hi Value V/G*10000, Calibration(V/G)=X35G/10000
word X35G_F1; // Lo, Hi Value V/G*10000, Calibration(V/G)=X35G_F1/10000
word X35G_F2; // Lo, Hi Value V/G*10000, Calibration(V/G)=X35G_F2/10000
word Temper; // Lo, Hi is used for temperature calculation by Accel.
// T(C)=ADC*2500/4096-Temper/35.5

DATA // 10 + 2*SampleCount bytes
1. Status // 10 bytes
byte Temperature; // signed, ±127C
byte Reference; // unsigned, Volts=(Reference+250)/100, should be 3.2-3.4
byte Channel; // 0-2
byte ADResRatePart; // 0..3 bits:
// 7-15 (Bits per sample - 1) – Actual resolution-1.,
// Resolution= (ADResRatePart&0x0F) +1
// 4..7 bits:
// Real Sample Rate Part after decimal point (4 bits)
// Lo, Hi. Value from DATA REQUEST.
word SampleCount; // Lo, Hi. Real Sample Rate Value (integer part).
word SampleRate; // RealSampleRate =( (ADResRatePart &0xF0)>>4)/16.0+SampleRate
// Lo, Hi. Value for Channel from EEPROM
word Calibration; // 2*SampleCount bytes, or SampleCount words D[SampleCount] Lo, Hi
2. Data // Sample[i](G)=(D[i]-(Pow(2, Resolution)-1)/2)*70/(Pow(2, Resolution)-1)
// Rem. B.1 – Data portion will be transferred if requested

B.1 Additions
SRAM
SRAM Content // 2*Size bytes, starts from 2*Address SRAM byte

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