4. HAL / HAR 37xy Memory Table

Table 4–1: HAL / HAR 37xy Memory Table

Bank	Address	Register Name	Type	Explanation	
0x00	0x00	Customer ID 1	Read/ Write	Free programmable value Range: 0x0000 .... 0xFFFF	EEPROM
0x00	0x01	Customer ID 2	Read/ Write	Free programmable value Range: 0x0000 .... 0xFFFF	EEPROM
0x00	0x02	GAIN_CH2	Read/ Write	Y-Gain correction for HAL/HAR 3715; 3725; 3735 Z-Gain correction for HAL/HAR 3726; 3727; 3736; 3737 Range: 0x8000 .... 0x7FFF (two's-complement)	EEPROM
0x00	0x03	GAIN_CH1	Read/ Write	X-Gain correction for HAL/HAR 3715; 3725; 3727; 3737 Y-Gain correction for HAL 3726; HAL 3736 Range: 0x8000 .... 0x7FFF (two's-complement)	EEPROM
0x00	0x04	CH1/CH2_GAIN	Read/ Write	Phase correction Range: 0x8000 .... 0x7FFF (two's-complement)	EEPROM
0x00	0x05	CUST_OFFSET1	Read/ Write	Offset correction: constant coefficient Range: 0x8000 .... 0x7FFF (two's-complement)	EEPROM
0x00	0x06	CUST_OFFSET2	Read/ Write	Offset correction: linear coefficient Range: 0x8000 .... 0x7FFF (two's-complement)	EEPROM
0x00	0x07	CUST_OFFSET3	Read/ Write	Offset correction: quadratic coefficient Range: 0x8000 .... 0x7FFF (two's-complement)	EEPROM
0x00	0x08	CUST_OFFSETCH1	Read/ Write	X-Offset correction switch for HAL/HAR 3715; 3725; 3727; 3737 Y-Offset correction switch for HAL/HAR 3726; 3736 0 - Offset OFF 32767 - Offset ON	EEPROM
0x00	0x09	CUST_OFFSETCH2	Read/ Write	Y-Offset correction switch for HAL/HAR 3715; 3725; 3735 Z-Offset correction switch for HAL/HAR 3726; 3727; 3736; 3737 0 - Offset OFF 32767 - Offset ON	EEPROM
0x00	0x0A	OUT_ZERO	Read/ Write	Zero angle adjustment Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x00	0x0B	PRE_OFFSET	Read/ Write	Pi jump blocker Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x00	0x0C	OUT_GAIN	Read/ Write	Gain for ANGLE_OUT Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x00	0x0D	OUT_OFFSET	Read/ Write	Offset for ANGLE_OUT Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x00	0x0E	CLAMP_HIGH	Read/ Write	Clamping level High of DAC value Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x00	0x0F	CLAMP_LOW	Read/ Write	Clamping level Low of DAC value Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM

Table 4–1: HAL / HAR 37xy Memory Table, continued

Bank	Address	Register Name	Type	Explanation	
0x00	0x10	MAG-HIGH	Read/ Write	Magnetic Compare Level High Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x00	0x11	MAG-LOW	Read/ Write	Magnetic Compare Level Low Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x00	0x12	HYSTERESIS_CH1	Read/ Write	Magnetic Hysteresis threshold: X-Channel for HAL/HAR 3715; 3725; 3727; 3737 Y-Channel for HAL/HAR 3726; 3736 Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x00	0x13	HYSTERESIS_CH2	Read/ Write	Magnetic Hysteresis threshold: Y-Channel for HAL/HAR 3715; 3725; 3735 Z-Channel for HAL/HAR 3726; 3727; 3736; 3737 Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x00	0x14	LP_FILTER	Read/ Write	LP-Filter Coefficient: 0: Filter off 1...32767: Filter on	EEPROM
0x00	0x15	MODULO	Read	Modulo 90deg/120deg select (only HAL/HAR 3715): 0: Modulo 90deg selected 10923: Modulo 120deg selected	EEPROM
0x00	0x16	Micronas ID 1	Read	Micronas Identification number 1 Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x00	0x17	Micronas ID 2	Read	Micronas Identification number 2 Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x02	0x00	TADJ	Read	Scaled Temperature Value Range: 0x8000 ... 0x7FFF (two's-complement)	RAM
0x02	0x04	CH1_COMP	Read	Compensated X-value for HAL/HAR 3715; 3725; 3727; 3737 Compensated Y-value for HAL/HAR 3726; 3736 Range: 0x8000 ... 0x7FFF (two's-complement)	RAM
0x02	0x05	CH2_COMP	Read	Compensated Y-value for HAL/HAR 3715; 3725; 3735 Compensated Z-value for HAL/HAR 3724; 3726; 3727; 3736; 3737 Range: 0x8000 ... 0x7FFF (two's-complement)	RAM
0x02	0x06	ANGLE_IN_CH1	Read	x input value for HAL/HAR 3715; 3725; 3727; 3737 y input value for HAL/HAR 3726; 3736 Range: 0x8000 ... 0x7FFF (two's-complement)	RAM
0x02	0x07	ANGLE_IN_CH2	Read	y input value for HAL/HAR 3715; 3725; 3735 z input value of Cordic for HAL/HAR 3726; 3727; 3736; 3737 Range: 0x8000 ... 0x7FFF (two's-complement)	RAM
0x02	0x08	ANGLE_OUT	Read	Output angle Range: 0x0000 ... 0x7FFF	RAM
0x02	0x09	ANGLE_AMP	Read	Output magnitude Range: 0x0000 ... 0x7FFF	RAM
0x03	0x00	TEMP	Read	Unadjusted Temperature value Range: 0x8000 ... 0x7FFF (two's-complement)	RAM

Table 4–1: HAL / HAR 37xy Memory Table, continued

Bank	Address	Register Name	Type	Explanation	
0x03	0x01	CF_CH1	Read	Unadjusted x value for HAL/HAR 3715; 3725; 3727; 3727 Unadjusted y value for HAL/HAR 3726; 3736 Range: 0x8000 ... 0x7FFF (two's-complement)	RAM
0x03	0x02	CF_CH2	Read	Unadjusted y value for HAL/HAR 3715; 3725; 3735 Unadjusted z value for HAL/HAR 3726; 3727; 3736; 3737 Range: 0x8000 ... 0x7FFF (two's-complement)	RAM
0x03	0x07	DAC	Read	Output register DAC Range: 0x0000 ... 0x7FFF	RAM
0x03	0x0B	PROG_DIAGNOSIS	Read/ Write	NVRAM programming Range: 0x8000 ... 0x7FFF	RAM
0x03	0x0C	DIAGNOSIS	Read/ Write	Diagnosis register (fault-modes) Range: 0x8000 ... 0x7FFF	RAM
0x03	0x18	CUST_SETUP	Read/ Write	Customer Setup Register Range: 0x8000 ... 0x7FFF (two's-complement)	NVRAM
0x04	0x00	SP0	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x01	SP1	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x02	SP2	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x03	SP3	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x04	SP4	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x05	SP5	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x06	SP6	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x07	SP7	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x08	SP8	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x09	SP9	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x0A	SP10	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x0B	SP11	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x0C	SP12	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x0D	SP13	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM

Table 4–1: HAL / HAR 37xy Memory Table, continued

Bank	Address	Register Name	Type	Explanation	
0x04	0x0E	SP14	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x0F	SP15	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x10	SP16	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x11	SP17	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x12	SP18	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x13	SP19	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x14	SP20	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x15	SP21	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x16	SP22	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x17	SP23	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x18	SP24	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x19	SP25	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x1A	SP26	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x1B	SP27	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x1C	SP28	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x1D	SP29	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x1E	SP30	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x04	0x1F	SP31	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM
0x05	0x01	SP32	Read/ Write	Setpoint Range: 0x8000 ... 0x7FFF (two's-complement)	EEPROM