

PAXDP Modbus Register Table

REVISED 12/03/12

LP0916A

¹ For Input Registers, replace the 4xxxx with a 3xxxx in the below register address. The 3xxxx are a mirror of the 4xxxx Holding Registers.

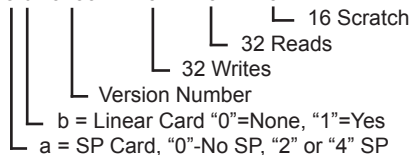
² An attempt to exceed a limit will set the register to its high or low limit value.

REGISTER ADDRESS ¹	REGISTER NAME	LOW LIMIT ²	HIGH LIMIT ²	FACTORY SETTING	ACCESS	COMMENTS
FREQUENTLY USED REGISTERS						
40001	Input A Relative Value (Hi word)	N/A	N/A	N/A	Read Only	Process value of present input level. This value is affected by Input Type, Resolution, Scaling & Offset Value (Relative Value = Absolute Input Value + Offset Value)
40002	Input A Relative Value (Lo word)					
40003	Input B Relative Value (Hi word)	N/A	N/A	N/A	Read Only	Process value of present input level. This value is affected by Input Type, Resolution, Scaling & Offset Value (Relative Value = Absolute Input Value + Offset Value)
40004	Input B Relative Value (Lo word)					
40005	Calculation Value (Hi word)	N/A	N/A	N/A	Read Only	Calculation Result of Math Function
40006	Calculation Value (Lo word)					
40007	Maximum Value (Hi word)	-19999	99999	N/A	Read/Write	
40008	Maximum Value (Lo word)					
40009	Minimum Value (Hi word)	-19999	99999	N/A	Read/Write	
40010	Minimum Value (Lo word)					
40011	Total Value (Hi word)	-199999000	999999000	N/A	Read/Write	
40012	Total Value (Lo word)					
40013	Setpoint 1 Value (Hi word)	-19999	99999	100	Read/Write	
40014	Setpoint 1 Value (Lo word)					
40015	Setpoint 2 Value (Hi word)	-19999	99999	200	Read/Write	
40016	Setpoint 2 Value (Lo word)					
40017	Setpoint 3 Value (Hi word)	-19999	99999	300	Read/Write	
40018	Setpoint 3 Value (Lo word)					
40019	Setpoint 4 Value (Hi word)	-19999	99999	400	Read/Write	
40020	Setpoint 4 Value (Lo word)					
40021	Setpoint Output Register (SOR)	0	15	N/A	Read/Write See Note	Status of Setpoint Outputs: Bit State: 0=Off, 1=On, Bit 3 = SP1, Bit 2 = SP2, Bit 1 = SP3, Bit 0 = SP4 Outputs can only be activated/reset with this register when respective bits in Manual Mode (MMR) register are set
40022	Manual Mode Register (MMR)	0	31	0	Read/Write	Bit State: 0=Auto Mode, 1=Manual Mode Bit 4 = SP1, Bit 3 = SP2, Bit 2 = SP3, Bit 1 = SP4, Bit 0 = Linear Output
40023	Reset Output Register	0	15	0	Read/Write	Bit State: 1= Reset Output; Bit is returned to zero following reset processing Bit 3 = SP1, Bit 2 = SP2, Bit 1 = SP3, Bit 0 = SP4
40024	Analog Output Register (AOR)	0	4095	0	Read/Write	Functional only if Linear Output is in manual mode (MMR bit 0 = 1). Linear Output Card is written to only if Linear Out (MMR bit 0) is set
40025	Input A Absolute Value (Hi word)	N/A	N/A	N/A	Read Only	Gross value of present Input A level. This value is affected by Input Type, Resolution, Scaling, but not affected by Offset Value
40026	Input A Absolute Value (Lo word)					
40027	Input B Absolute Value (Hi word)	N/A	N/A	N/A	Read Only	Gross value of present Input B level. This value is affected by Input Type, Resolution, Scaling, but not affected by Offset Value
40028	Input B Absolute Value (Lo word)					
40029	Input A Offset Value (Hi word)	-19999	99999	0	Read/Write	Relative Input Value (standard meter value) is sum of Input Offset Value and Input Absolute Value
40030	Input A Offset Value (Lo word)					
40031	Input B Offset Value (Hi word)	-19999	99999	0	Read/Write	Relative Input Value (standard meter value) is sum of Input Offset Value and Input Absolute Value
40032	Input B Offset Value (Lo word)					
40033	Main Setpoint 1 Value (Hi word)	-19999	99999	100	Read/Write	Setpoint List A
40034	Main Setpoint 1 Value (Lo word)					
40035	Main Setpoint 2 Value (Hi word)	-19999	99999	200	Read/Write	Setpoint List A
40036	Main Setpoint 2 Value (Lo word)					
40037	Main Setpoint 3 Value (Hi word)	-19999	99999	300	Read/Write	Setpoint List A
40038	Main Setpoint 3 Value (Lo word)					
40039	Main Setpoint 4 Value (Hi word)	-19999	99999	400	Read/Write	Setpoint List A
40040	Main Setpoint 4 Value (Lo word)					

REGISTER ADDRESS ¹	REGISTER NAME	LOW LIMIT ²	HIGH LIMIT ²	FACTORY SETTING	ACCESS	COMMENTS	
40041	Alternate Setpoint 1 Value (Hi word)	-19999	99999	100	Read/Write	Setpoint List B	
40042	Alternate Setpoint 1 Value (Lo word)						
40043	Alternate Setpoint 2 Value (Hi word)	-19999	99999	200	Read/Write	Setpoint List B	
40044	Alternate Setpoint 2 Value (Lo word)						
40045	Alternate Setpoint 3 Value (Hi word)	-19999	99999	300	Read/Write	Setpoint List B	
40046	Alternate Setpoint 3 Value (Lo word)						
40047	Alternate Setpoint 4 Value (Hi word)	-19999	99999	400	Read/Write	Setpoint List B	
40048	Alternate Setpoint 4 Value (Lo word)						
CH A	CH B	INPUT PARAMETERS				SEE MODULE 1 FOR PARAMETER DESCRIPTIONS	
40101	40201	Input Range	0	1	0	Read/Write	0 = Volt, 1 = Current, 2 = Volt Square Root Extraction, 3 = Current Square Root Extraction
40102	40202	ADC Conversion Rate (samples/sec)	0	6	3	Read/Write	0 = 5.3, 1 = 7.5, 2 = 16.7, 3 = 19.8, 4 = 20, 5 = 30, 6 = 105
40103	40203	Decimal Point	0	4	3	Read/Write	0 = 0, 1 = 0.0, 2 = 0.00, 3 = 0.000, 4 = 0.0000
40104	40204	Rounding Factor	0	6	0	Read/Write	0 = 1, 1 = 2, 2 = 5, 3 = 10, 4 = 20, 5 = 50, 6 = 100
40105	40205	Digital Input Filter	0	250	10	Read/Write	1 = 0.1 Second
40106	40206	Filter Band	0	250	10	Read/Write	1 = 1 display unit
40107	40207	Number of Scaling Points	2	16	2	Read/Write	Number of Linearization Scaling Points
40108	40208	Reserved	N/A	N/A	N/A	N/A	
		Scaling Points Parameters					
40109	40209	Input 1 Input Value (Hi word)	-19999	99999	0	Read/Write	1 = 0.001
40110	40210	Input 1 Input Value (Lo word)					
40111	40211	Display 1 Input Value (Hi word)	-19999	99999	0	Read/Write	
40112	40212	Display 1 Input Value (Lo word)					
thru	thru		Registers 40113-40168, 40213-40268 not shown but follow ordering as shown for Input 1, Display 1
40169	40269	Input 16 Input Value (Hi word)	-19999	99999	0	Read/Write	1 = 0.001
40170	40270	Input 16 Input Value (Lo word)					
40171	40271	Input 16 Input Value (Hi word)	-19999	99999	0	Read/Write	
40172	40272	Input 16 Input Value (Lo word)					
USER INPUT & FUNCTION KEY PARAMETERS				SEE MODULE 2 FOR PARAMETER DESCRIPTIONS			
User Inputs							
40301	User Input 1 Action	0	30	0	Read/Write	0 = NO 6 = d-HLd 12 = E-tot 18 = dSP-b 24 = r-2 30 = Print 1 = PLOC 7 = A-HLd 13 = r-HI 19 = dSP-C 25 = r-3 2 = A-rEL 8 = SYNC 14 = r-Lo 20 = dSP_ 26 = r-4 3 = b-rEL 9 = bAt 15 = r-HL 21 = d-LEV 27 = r-34 4 = A-drL 10 = rtot1 16 = dISP 22 = LISt 28 = r-234 5 = b-drL 11 = rtot2 17 = dSP-A 23 = r-1 29 = r-ALL	
40302	User Input 2 Action	0	30	0	Read/Write	See User Input 1 above	
Function Keys							
40303	User F1 Key Action	0	19	0	Read/Write	0 = NO 4 = b-drL 8 = r-Lo 12 = r-1 16 = r-34 1 = A-rEL 5 = bAt 9 = r-HL 13 = r-2 17 = r-234 2 = b-rEL 6 = rtot 10 = d-LEV 14 = r-3 18 = r-ALL 3 = A-drL 7 = r-HI 11 = LISt 15 = r-4 19 = Print	
40304	User F2 Key Action	0	19	0	Read/Write	See User F1 Key Description	
40305	User Reset Key Action	0	19	0	Read/Write	See User F1 Key Description	
40306	User F1 Second Action	0	19	0	Read/Write	See User F1 Key Description	
40307	User F2 Second Action	0	19	0	Read/Write	See User F1 Key Description	
DISPLAY/QUICK PRO MENU LOCKS				SEE MODULE 3 FOR PARAMETER DESCRIPTIONS			
40311	Input A Display Lock	0	5	3	Read/Write	0 = Loc, 1 = Red, 2 = Disp __, 3 = Disp A, 4 = Disp B, 5 = Disp C	
40312	Input B Display	0	5	4	Read/Write	0 = Loc, 1 = Red, 2 = Disp __, 3 = Disp A, 4 = Disp B, 5 = Disp C	
40313	Calculation Display	0	5	5	Read/Write	0 = Loc, 1 = Red, 2 = Disp __, 3 = Disp A, 4 = Disp B, 5 = Disp C	
40314	Maximum (Hi) Value	0	5	0	Read/Write	0 = Loc, 1 = Red, 2 = Disp __, 3 = Disp A, 4 = Disp B, 5 = Disp C	
40315	Minimum (Lo) Value						

REGISTER ADDRESS ¹	REGISTER NAME	LOW LIMIT ²	HIGH LIMIT ²	FACTORY SETTING	ACCESS	COMMENTS
40316	Total Display	0	5	0	Read/Write	0 = Loc, 1 = Red, 2 = Disp __, 3 = Disp A, 4 = Disp B, 5 = Disp C
40317	SP1 Quick Pro	0	2	0	Read/Write	0 = Lock, 1 = Read, 2 = Enter
40318	SP2 Quick Pro	0	2	0	Read/Write	0 = Lock, 1 = Read, 2 = Enter
40319	SP3 Quick Pro	0	2	0	Read/Write	0 = Lock, 1 = Read, 2 = Enter
40320	SP4 Quick Pro	0	2	0	Read/Write	0 = Lock, 1 = Read, 2 = Enter
40321	Program Mode Security Code	0	250	0	Read/Write	
40322	Display Intensity Level	0	15	3	Read/Write	0 = Min Intensity, 15 = Max Intensity
SECONDARY PARAMETERS				SEE MODULE 4 FOR PARAMETER DESCRIPTIONS		
40029	Input A Offset Value (Hi word)	-19999	99999	0	Read/Write	*Value shown here for reference
40030	Input A Offset Value (Lo word)					
40031	Input B Offset Value (Hi word)	-19999	99999	0	Read/Write	*Value shown here for reference
40032	Input B Offset Value (Lo word)					
40331	Max (Hi) Value Assignment	0	4	0	Read/Write	0 = A-Rel, 1 = A-Abs, 2 = b-Rel, 3 = bAbs, 4 = Calc
40332	Max (Hi) Capture Delay Time	0	32750	10	Read/Write	0 = Max Update Rate, 1 = 0.1 sec
40333	Min (Lo) Value Assignment	0	4	0	Read/Write	0 = A-Rel, 1 = A-Abs, 2 = b-Rel, 3 = bAbs, 4 = Calc
40334	Min (Lo) Capture Delay Time	0	32750	10	Read/Write	0 = Max Update Rate, 1 = 0.1 sec
40335	Display Update Time	0	4	0	Read/Write	0 = 1Rdg/Sec, 1 = 2 Rdgs/Sec, 2 = 5 Rdgs/Sec, 3 = 10 Rdgs/Sec, 4 = 20 Rdgs/Sec
40336	Units Annunciator Backlight	0	1	0	Read/Write	0 = Off, 1 = 0n
40337	Calculation Function	0	5	0	Read/Write	0 = C+A+B 1 = C-A-B 2 = C+A-B 3 = A*B/C 4 = C*A/B 5 = C(A/B-1) A=Input A, B=Input B, C=Calculation Constant
40338	Calculation Display Decimal Point	0	4	3	Read/Write	0 = 0, 1 = 0.0, 2 = 0.00, 3 = 0.000, 4 = 0.0000
40339	Calculation Constant Value High	-19999	99999	1000	Read/Write	
40340	Calculation Constant Value Low					
40341	Calculation Display Rounding Factor	0	6	0	Read/Write	0 = 1, 1 = 2, 2 = 5, 3 = 10, 4 = 20, 5 = 50, 6 = 100
40342	Calculation Display Filter Value	0	250	10	Read/Write	1 = 0.1 Second
40343	Calculation Filter Band	0	250	10	Read/Write	1 = 1 display unit
TOTALIZER PARAMETERS						
40351	Total Assignment	0	2	0	Read/Write	0 = A-Rel, 1 = b-Rel, 2 = Calc
40352	Total Decimal Point	0	4	2	Read/Write	0 = 0, 1 = 0.0, 2 = 0.00, 3 = 0.000, 4 = 0.0000
40353	Total Timebase	0	3	1	Read/Write	0 = Second, 1 = Minute, 2 = Hour, 3 = Day
40354	Total Scale Factor	0	65000	1000	Read/Write	1 = 0.001
40355	Total Low Cut Value (Hi word)	-19999	99999	-19999	Read/Write	1 = 1 Display Unit
40356	Total Low Cut Value (Lo word)					
40357	Total Reset at Power Up	0	1	0	Read/Write	0 = No, 1 = Yes
SETPOINT (ALARM) PARAMETERS				SEE MODULE 6 FOR PARAMETER DESCRIPTIONS (APPLIES ONLY IF SP OPTION CARD, PAXCDS, IS INSTALLED)		
Note: SP Values are located at Registers 40013-40021						
Setpoint 1						
40361	Assignment	0	6	0	Read/Write	0 = None, 1 = A-Rel, 2 = A-Abs, 3 = b-Rel, 4 = b-Abs, 5 = Calc, 6 = Tot
40362	Action	0	10	0	Read/Write	0 = No, 1 = Ab-HI, 2 = Ab-Lo, 3 = AU-HI, 4 = AU-LO, 9 = totLo, 10 = totHI; Do not use 5-8
40363	Hysteresis	1	65000	2	Read/Write	1 = 1 Display Unit
40364	On Delay	0	32750	0	Read/Write	1 = 0.1 Second
40365	Off Delay	0	32750	0	Read/Write	1 = 0.1 Second
40366	Output Logic	0	1	0	Read/Write	0 = Normal, 1 = Reverse
40367	Reset	0	2	0	Read/Write	0 = Auto, 1 = Latch1, 2 = Latch2
40368	Standby	0	1	0	Read/Write	0 = No, 1 = Yes
40369	Lit - Annunciator	1	3	1	Read/Write	0 = Off, 1 = Normal, 2 = Reverse, 3 = Flash
Setpoint 2						
40371	Assignment	0	6	0	Read/Write	0 = None, 1 = A-Rel, 2 = A-Abs, 3 = b-Rel, 4 = bAbs, 5 = Calc, 6 = Tot
40372	Action	0	10	0	Read/Write	0 = No, 1 = Ab-HI, 2 = Ab-Lo, 3 = AU-HI, 4 = AU-LO, 5 = dE-HI, 6 = dE-LO, 7 = bANd, 8 = bNdIn, 9 = totLo, 10 = totHI
40373	Hysteresis	1	65000	2	Read/Write	1 = 1 Display Unit

REGISTER ADDRESS ¹	REGISTER NAME	LOW LIMIT ²	HIGH LIMIT ²	FACTORY SETTING	ACCESS	COMMENTS
40374	On Delay	0	32750	0	Read/Write	1 = 0.1 Second
40375	Off Delay	0	32750	0	Read/Write	1 = 0.1 Second
40376	Output Logic	0	1	0	Read/Write	0 = Normal, 1 = Reverse
40377	Reset	0	2	0	Read/Write	0 = Auto, 1 = Latch1, 2 = Latch2
40378	Standby	0	1	0	Read/Write	0 = No, 1 = Yes
40379	Lit – Annunciator	0	3	1	Read/Write	0 = Off, 1 = Normal, 2 = Reverse, 3 = Flash
Setpoint 3						
40381	Assignment	0	6	0	Read/Write	0 = None, 1 = A-Rel, 2 = A-Abs, 3 = b-Rel, 4 = bAbs, 5 = Calc, 6 = Tot
40382	Action	0	10	0	Read/Write	0 = No, 1 = Ab-HI, 2 = Ab-Lo, 3 = AU-HI, 4 = AU-LO, 9 = totLo, 10 = totHI
40383	Hysteresis	1	65000	2	Read/Write	1 = 1 Display Unit
40384	On Delay	0	32750	0	Read/Write	1 = 0.1 Second
40385	Off Delay	0	32750	0	Read/Write	1 = 0.1 Second
40386	Output Logic	0	1	0	Read/Write	0 = Normal, 1 = Reverse
40387	Reset	0	2	0	Read/Write	0 = Auto, 1 = Latch1, 2 = Latch2
40388	Standby	0	1	0	Read/Write	0 = No, 1 = Yes
40389	Lit – Annunciator	0	3	1	Read/Write	0 = Off, 1 = Normal, 2 = Reverse, 3 = Flash
Setpoint 4						
40391	Assignment	0	6	0	Read/Write	0 = None, 1 = A-Rel, 2 = A-Abs, 3 = b-Rel, 4 = bAbs, 5 = Calc, 6 = Tot
40392	Action	0	10	0	Read/Write	0 = No, 1 = Ab-HI, 2 = Ab-Lo, 3 = AU-HI, 4 = AU-LO, 5 = dE-HI, 6 = dE-LO, 7 = bANd, 8 = bNdn, 9 = totLo, 10 = totHI
40393	Hysteresis	1	65000	2	Read/Write	1 = 1 Display Unit
40394	On Delay	0	32750	0	Read/Write	1 = 0.1 Second
40395	Off Delay	0	32750	0	Read/Write	1 = 0.1 Second
40396	Output Logic	0	1	0	Read/Write	0 = Normal, 1 = Reverse
40397	Reset	0	2	0	Read/Write	0 = Auto, 1 = Latch1, 2 = Latch2
40398	Standby	0	1	0	Read/Write	0 = No, 1 = Yes
40399	Lit – Annunciator	0	3	1	Read/Write	0 = Off, 1 = Normal, 2 = Reverse, 3 = Flash
SERIAL COMMUNICATIONS PARAMETERS			SEE MODULE 7 FOR PARAMETER DESCRIPTIONS			
40401	Type	0	2	2	Read/Write	0 = RLC Protocol (ASCII), 1 = Modbus RTU, 2 = Modbus ASCII
40402	Baud Rate	0	7	7	Read/Write	0 = 300, 1 = 600, 2 = 1200, 3 = 2400, 4 = 4.8k, 5 = 9.6k, 6 = 19.2k, 7 = 38.4k
40403	Data Bits	0	1	1	Read/Write	0 = 7 Bits, 1 = 8 Bits
40404	Parity	0	2	0	Read/Write	0 = None, 1 = Even, 2 = Odd
40405	Address	0	99	0	Read/Write	RLC Protocol: 0-99
		1	247	247		Modbus: 1-247
40406	Transmit Delay	0	250	10	Read/Write	1 = 0.001 Seconds
40407	Abbreviated Transmission (RLC only)	0	1		Read/Write	0 = No, 1 = Yes (Not used with Modbus protocol)
40408	Print Options (RLC only)	0	63	0	Read/Write	0 = No, 1 = Yes (Not used with Modbus protocol) Bit 0 – Print Input A Value Bit 3 – Print Max & Min Values Bit 1 – Print Input B Value Bit 4 – Print Total Value Bit 2 – Print CALC Value Bit 5 – Print Setpoint Values
40409	Load Serial Settings	0	1	0	Read/Write	Changing 40401-40406 will not update the PAXDP until this register is written with a 1. After the write, the communicating device must be changed to the new PAXDP settings and the register returns to 0.
ANALOG OUTPUT PARAMETERS			SEE MODULE 8 FOR PARAMETER DESCRIPTIONS (APPLIES ONLY WHEN LINEAR OUTPUT CARD, PAXCDL IS INSTALLED)			
40411	Type	0	2	1	Read/Write	0 = 0-20 mA, 1 = 4-20 mA, 2 = 0-10 V
40412	Assignment	0	8	0	Read/Write	0 = NONE, 1 = A-REL, 2 = A-AbS, 3 = b-rEL, 4 = b-AbS, 5 = CALC, 6 = tot, 7 = HI, 8 = LO
40413	Analog Low Scale Value (Hi word)	-19999	99999	0	Read/Write	Display value that corresponds with 0 V, 0 mA or 4 mA output
40414	Analog Low Scale Value (Lo word)					
40415	Analog High Scale Value (Hi word)	-19999	99999	10000	Read/Write	Display value that corresponds with 10 V or 20 mA output
40416	Analog High Scale Value (Lo word)					
40417	Update time	0	100	0	Read/Write	0 = Max update rate, 1 = 0.1 Second

REGISTER ADDRESS ¹	REGISTER NAME	LOW LIMIT ²	HIGH LIMIT ²	FACTORY SETTING	ACCESS	COMMENTS
FACTORY SERVICE						
40501	Factory Service Register	N/A	N/A	N/A	Read/Write	Factory Use Only – do not modify
40502	Factory Service Data Register	N/A	N/A	N/A	Read/Write	Factory User Only – do not modify
40503	Main Display Number	0	3	1	Read/Write	0 = Display __, 1 = Display A, 2 = Display B, 3 = Display C
40504	Power Up Errors	N/A	N/A	N/A	Read Only	Bit Cleared = No Error, Bit Set = Error Bit 0 = Input A Hardware Error (ErInA) Bit 1 = Input B Hardware Error (ErInb) Bit 2 = Key Stuck at power-up Error (ErKEY) Bit 3 = Power Down Data Checksum Error (EEPdn) Bit 4 = Parameter Checksum Error (EEPar) Bit 5 = Calibration Data Checksum error (EECal) Bit 6 = Linear Output Card Calibration Checksum Data Error (EELin)
40505	Input A/B Error	N/A	N/A	N/A	Read Only	Bit Cleared = No Error, Bit Set = Error Bit 0 = Input A Display Underflow (<-19999) Bit 1 = Input A Display Overflow (>99999) Bit 2 = Input A Signal Underrange (<13V or <-26mA) Bit 3 = Input A Signal Overrange (>13V or >26mA) Bit 4 = Input A Display Underflow (<-19999) Bit 5 = Input A Display Overflow (>99999) Bit 6 = Input A Signal Underrange (<13V or <-26mA) Bit 7 = Input A Signal Overrange (>13V or >26mA)
40506	Total & Calculation Error	N/A	N/A	N/A	Read Only	Bit 0 = Calculation Display Underflow (<-19999) Bit 1 = Calculation Display Overflow (>99999) Bit 4 = Total Value Display Underflow (<-99999900) Bit 5 = Total Value Display Overflow (>999999000)
41001-41010	Slave ID	N/A	N/A	N/A	Read Only	RLC-PAXDP a b <0100h><20h><20h><10h>  b = Linear Card "0"=None, "1"=Yes a = SP Card, "0"-No SP, "2" or "4" SP (a = "0", "2", "4" SP card installed; b = "0" or "1" Linear Card installed), 1.00 version (or higher) 32 reads, 32 writes 16 scratch
41101-41116	GUID/Scratch	N/A	N/A	N/A	Read/Write	Reserved (for use in future Red Lion software)