

Bidisp3 Modbus register layout

General						
- All registers are "Holding registers"						
- Register 40001 corresponds to modbus address 0000						

Display information (read only)						
Register	Address	Access	Type	Range	Description	Default
40001	0	RO	Integer	0-9	Firmware major version (X in X.YY.ZZ)	
40002	1	RO	Integer	0-99	Firmware mid version (YY in X.YY.ZZ)	
40003	2	RO	Integer	0-99	Firmware minor version (ZZ in X.YY.ZZ)	
40004	3	RO	Integer	1-99	Modbus layout major version (X in X.ZZ) Changed if register layout is changed in a way that is not backwards compatible	1
40005	4	RO	Integer	0-99	Modbus layout minor version (ZZ in X.ZZ) Changed if register layout is changed in a backwards compatible way, i.e new registers are added etc.	0
40006	5	RO	Integer	64, 128	Display size X [pixels] (XMAX)	64 or 128
40007	6	RO	Integer	16	Display size Y [pixels] (YMAX)	16
40008	7	RO	Integer	-727...2902	Measured temperature [*0.1 Celcius] (234 means 23.4C)	0
40009	8	RO	Integer	0-343	Measured supply voltage [*0.1V] (234 means 23.4V)	0

Global settings						
Register	Address	Access	Type	Range	Description	Default
40101	100	RW	Integer	0... 100%	Panel brightness level. 0 means display off, 100 means full on. Value can be saved in non volatile memory, see below.	100%
40102	101	RW	Integer	0, 1	Write 1 to save "panel brightness level" in non-volatile memory. Returns 0 when read.	0
40103	102	RW	Integer	0, 1	Clear display Write 1 to reset all display parameters to default settings and erase the display . Returns 0 when read.	0
40104	103	RW	Integer	0, 1	"Find display". Set to 1 to get a visible indication to be able to locate display	0

Settings for text areas						
Register range	Address range				Description	
Bidisp can handle up to 16 different areas on the display, where each area can have its own attributes and text						
Each text area is associated with a separated register area, detailed explanation on following pages:						
40501-41000	500-999				Settings for text area #0	
41001-41500	1000-1499				Settings for text area #1	
41501-42000	1500-1999				Settings for text area #2	
42001-42500	2000-2499				Settings for text area #3	
42501-43000	2500-2999				Settings for text area #4	
43001-43500	3000-3499				Settings for text area #5	
43501-44000	3500-3999				Settings for text area #6	
44001-44500	4000-4499				Settings for text area #7	
44501-45000	4500-4999				Settings for text area #8	
45001-45500	5000-5499				Settings for text area #9	
45501-46000	5500-5999				Settings for text area #10	

Settings for text area #0						
Text area #1...#15 has the same layout, only the offset differs						
Register	Address	Access	Type	Range	Description	Default
40501 + 0	500	RW	Integer	0...XMAX-1	Text area horizontal starting position x [pixels] 0 means left edge, XMAX-1 means right edge No check is made in the display on whether the text areas overlap each other.	0
40501 + 1	501	RW	Integer	0...YMAX-1	Text area vertical starting position y [pixels] 0 means top, YMAX-1 means bottom No check is made in the display on whether the text areas overlap each other.	0
40501 + 2	502	RW	Integer	1... XMAX	Text area horizontal size (width) [pixels]	Area #0 : XMAX Area #1-15: 0
40501 + 3	503	RW	Integer	1... YMAX	Text area vertical size (height) [pixels]	Area #0 : YMAX Area #1-15: 0

Settings for text area #0, continued						
Text area #1...#15 has the same layout, only the offset differs						
Register	Adress	Access	Type	Range	Description	Default
40501 + 4	504	RW	Integer	0... 2	FONT selection Small 5 x 7 px n = 0 Large 8 x 16 px n = 1 Centred 8 x 15 px n = 2 Changing font also resets SPACING, see below.	0
40501 + 5	505	RW	Integer	0... 8	SPACING n = 0 - 8, n = 8 gives the biggest spacing. When font is changed with "FONT selection" this value will be reset to: - Small font: 1 - Other fonts: 2	1
40501 + 6	506	RW	Integer	0... 2	HORIZONTAL ALIGNMENT Align left n = 0 When scroll is enabled, the text is aligned to the left. Align right n = 1 Align center n = 2	0
40501 + 7	507	RW	Integer	0... 2	VERTICAL ALIGNMENT Align top n = 0 Align bottom n = 1 Align center n = 2	0
40501 + 8	508	RW	Integer	0... 1	FONT WIDTH n = 0 The characters are displayed with proprtional width. n = 1 The characters 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, Space, +, -, / and * are displayed with fixed width, all others use proprtional width.	0
40501 + 9	509	RW	Integer	0... 3	FONT COLOUR Off n = 0 Red n = 1 Green n = 2 Yellow n = 3	1
40501 + 10	510	RW	Integer	0... 3	BACKGROUND COLOUR Background colour Off n = 0 Red n = 1 Green n = 2 Yellow n = 3	0
40501 + 11	511	RW	Integer	0... 3	ROTATE Rotate 0° n = 0 Rotate 90° anticlockwise n = 1 Rotate 180° n = 2 Rotate 270° anticlockwise n = 3	0
40501 + 12	512	RW	Integer	0... 15	SCROLL Scroll off n = 0 Scroll enabled n = 1 - 15, n = 15 gives the highest scrolling speed	0
40501 + 13	513	RW	Integer	0... 1	FLASH Not flashing n = 0 Flashing active n = 1	0
40501 + 14	514	RW	Bit	0, 1	RESTORE Restores parameters to the default setting for the chosen text area. Returns 0 when read.	0
40501 + 15	515	RW	Bit	0, 1	SHOW Set to 1 to enable display of this area, 0 to hide. When hidden then whole text area will be black To fill whole text area with background color, set SHOW=1 and TEXT=""	Area #0 : 1 Area #1-15: 0
...					Spare, returns 0 when read	
40501 + 50	550	RW	Byte	0, 20...255	TEXT* to be displayed, ascii value of 1st character	0
40501 + 51	551	RW	Byte	0, 20...255	TEXT* to be displayed, ascii value of 2nd character	0
40550 + N	550+N-1	RW	Byte	0, 20...255	TEXT* to be displayed, ascii value of N'th character	0
40501 + 306	806	RW	Byte	0	Last available position of text. Fixed to zero to avoid unterminated strings.	0

***Encoding used for text string (TEXT):**

- One character per register placed in LSB (MSB=0)
- Text should be zero-terminated.
- If termination is overwritten with a non-zero value,
Bidisp will automatically insert a termination in the following register.
- Valid characters are ascii values 20-255
- Ascii values should be chosen according to ISO8859-15