CONTENTS

JTL RAG TEMPERATURE INTERFACE ITEM NUMBERS | RL130

ITEM	DESCRIPTION	CODE	CODE MEANING	BIT 4321	RANGE	ITEM 9 VALUE
	1. Jnet NETWORK IDENTIFICATION					
0	Unit type	rL13	Unit type			
19	Software Version number					
	1.1 UNIT NUMBERS 16 channels up to v0.00.3, 31 channels from v0.00.4					
211	Channel 1				0 - 899.9	
221	Channel 2					
231	Channel 3					
241	Channel 4					
251	Channel 5					
261	Channel 6					
271	Channel 7					
281	Channel 8					
291	Channel 9					
301	Channel 10					
311	Channel 11					
321	Channel 12					
331	Channel 13					
341	Channel 14					
351	Channel 15					
361	Channel 16					
371	Channel 17					
381	Channel 18					
391	Channel 19					
401	Channel 20					
411	Channel 21					
421	Channel 22					
431	Channel 23					
441	Channel 24					
451	Channel 25					
461	Channel 26					
471	Channel 27					
481	Channel 28					
491	Channel 29					
501	Channel 30					
511	Channel 31					

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2. TEMPERATURES The temperature shown on the channels are sorted from the temperatures recorded from RAG by matching the serial numbers with the serial numbers entered in the channel data in section 3. 16 channels up to v0.00.3, 31 channels from v0.00.4						
101	Channel 1					
102	Channel 2					
103	Channel 3					
104	Channel 4					
105	Channel 5					
106	Channel 6					
107	Channel 7					
108	Channel 8					
109	Channel 9					
110	Channel 10					
111	Channel 11					
112	Channel 12					
113	Channel 13					
114	Channel 14					
115	Channel 15					
116	Channel 16					
117	Channel 17					
118	Channel 18					
119	Channel 19					
120	Channel 20					
121	Channel 21					
122	Channel 22					
123	Channel 23					
124	Channel 24					
125	Channel 25					
126	Channel 26					
127	Channel 27					
128	Channel 28					
129	Channel 29					
130	Channel 30					
131	Channel 31					

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3. CHANNEL TEMPERATURE DATA & ALARMS A general form of item numbers is shown below. The "x" shown in each item number should be replaced by the channel number (1 - 9). This sequence covers item numbers 210-299. For channels 10 - 19 the item nos are 300 - 399. For channels 20 - 29 the item nos are 400 - 499. For channels 30 & 31 item nos are 500 - 519.						
2x0 3x0 4x0 5x0	Channel Selection	OFF on			0 - 1	on
2x9 3x9 4x9 5x9	RAG sensor no (i.e. 999xxxx) Mist significant digits.				0 - 999	0
2x8 3x8 4x8 5x8	RAG sensor no (i.e. xxxx9999) Least significant digits.				0 - 9999	0
2x7 3x7 4x7 5x7	Mode	0 rdy r.E.FL r.C.FL	Unknown Ready RAG equipment fault RAG communication fault			
2x6 3x6 4x6 5x6	RAG alarm indication (not implemented)	0 t-AL	No Alarm Alarm			
2x2 3x2 4x2 5x2	Temperature					
2x4 3x4 4x4 5x4	Average temperature					
2x5 3x5 4x5 5x5	Period over which averages taken				00:02 - 04:00	upto version 0.00.6 00:10 from version 0.00.7 01:00
2x3 3x3 4x3 5x3	Quality of signal (v0.00.5 on)	0 - 9	0 = No signal 9 = Max signal			

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4. RECEIVED DATA SET The sensor data is received from RAG in groups. Sensor 1 temperature is on item 601 and the sensor 1 serial number is items 603 & 602. Up to 16 sensors are supported up to v0.00.3, 31 channels from v0.00.4						
600	No of sensors received from RAG (v0.00.1 on)					
4.1 SENSOR TEMPERATURE RECEIVED FROM RAG						
601	Data set 1					
604	Data set 2					
607	Data set 3					
610	Data set 4					
613	Data set 5					
616	Data set 6					
619	Data set 7					
622	Data set 8					
625	Data set 9					
628	Data set 10					
631	Data set 11					
634	Data set 12					
637	Data set 13					
640	Data set 14					
643	Data set 15					
646	Data set 16					
649	Data set 17					
652	Data set 18					
655	Data set 19					
658	Data set 20					
661	Data set 21					
664	Data set 22					
667	Data set 23					
670	Data set 24					
673	Data set 25					
676	Data set 26					
679	Data set 27					
682	Data set 28					
685	Data set 29					
688	Data set 30					
691	Data set 31					

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ITEM	**DESCRIPTION**	**CODE**	**CODE MEANING**	**BIT**	**RANGE**	**ITEM 9 VALUE**
				4321		
4.2 SENSOR SERIAL NUMBER RECEIVED FROM RAG						
603, 602	Data set 1					
606, 605	Data set 2					
609, 608	Data set 3					
612, 611	Data set 4					
615, 614	Data set 5					
618, 617	Data set 6					
621, 620	Data set 7					
624, 623	Data set 8					
627, 626	Data set 9					
630, 629	Data set 10					
633, 632	Data set 11					
636, 635	Data set 12					
639, 638	Data set 13					
642, 641	Data set 14					
645, 644	Data set 15					
648, 647	Data set 16					
651, 650	Data set 17					
654, 653	Data set 18					
657, 656	Data set 19					
660, 659	Data set 20					
663, 662	Data set 21					
666, 665	Data set 22					
669, 668	Data set 23					
672, 671	Data set 24					
675, 674	Data set 25					
678, 677	Data set 26					
681, 680	Data set 27					
684, 683	Data set 28					
687, 686	Data set 29					
690, 689	Data set 30					
693, 692	Data set 31					
5. OUTPUTS						
72 (22)	Alarm relay (LN1/NO1) (Contacts closed if any critical alarm present on unit)	OFF AL.on	Alarm off Alarm on			
73 (21)	Siren relay (LN2/NO2) (On when alarm occurs)	OFF Sn.on	Siren off Siren on			
74	Watchdog relay (LN3/NO3) (contacts closed when healthy)	OFF hty	Faulty healthy			
28	Alarm lamp selection	OFF LP.EN	Disabled Alarm lamp enable			
6. DISPLAY FUNCTIONS						
25	Select local mute enable	OFF AC.En	Local mute disable Local mute enable		0 - 1	AC.En
23	"Function" pushbutton input status	OFF Pb.1	Off Button pressed			
24	"Scroll" pushbutton input status	OFF Pb.2	Off Button pressed			
29	"Enter" pushbutton input status	OFF Pb.3	Off Button pressed			

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7. RESTORE FACTORY DEFAULT DATA						
9	Set default values	1234 1066	Set default values Write to NVRAM without delay			
8. CLOCK CALENDAR Note,the time and date can be displayed as standard or daylight saving (summer) time. This choice is made on item 18. When daylight saving is chosen and the controller is connected to a JTL Network Controller supporting daylight saving operation, the change is made automatically to the current EU directive.						
2	Time of day				00:00 - 23:59	
3	Day of week	Sun - Sat	0 = Sunday 1 = Monday etc			
4	Date				01:01 - 31:12	
5	Year				2004 - 2034	
18	Daylight saving enable	Stnd dAY.S	Standard time Daylight saving time		0 - 1	Stnd
9. SYSTEM ALARMS Note: for channel alarms see channel data (section 3) items 2x5 & 2x6, 3x5, 3x6, 4x5, 4x6, 5x5 &5x6 where x is the channel number.						
80	Group alarm 81-88	0 1-255	No alarms Check 81-88			
81	RAG equipment fault	CLr r.E.FL	No Fault Fault			
82	Mute button pressed (alarm is cleared when read by network controller)	CLr AC.Pr	No alarm Button pressed			
83	RAG communications failure	clr r.C.FL	No Fault Fault			
87	Unit number corrupted/not set	CLr Un.CF	No fault Fault			

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10. DIAGNOSTIC & TEST FUNCTIONS						
6	Jnet communications speed	4.8	kilo baud rate			
7	2 wire communications	HALF	2 wire			
8	Bitswitch setting		Not used			
99	Test digital display	CLr SEt	Not active Test active		0 - 1	
71	Pushbutton status	P- - - P1 - - P - 2 - P - - 3	No inputs Function p/b Scroll p/b Enter p/b			
78	Test inputs	- - - - 1 - - - - 2 - - - - 3 - - - - 4	No inputs Input 1 on Input 2 on Input 3 on Input 4 on			
79	Test output relays	Clr SEt	Not active Active		0 - 1	
10	Processor alarms (11-17)	0 1-255	No alarms Check 11-17			
11	Static RAM fault	CLr rA.Ft	No fault Fault			
12	Program/counter fault	CLr PC.Ft	No fault Fault			
13	Stack pointer fault	CLr SP.Ft	No fault Fault			
14	Background loop fault	CLr bL.Ft	No fault Fault			
15	PROM checksum fault	CLr Pr.Ft	No fault Fault			
16	NVRAM fault	CLr n.Ft	No fault Fault			
17	Instruction TRAP fault	CLr tP.Ft	No fault Fault			

DISPLAY MESSAGES	RL130
NORMAL DISPLAY	
RL12	Unit type
ALARM TEXT (in descending priority order)	
t-xx	Temperature alarm
r.E.FL	RAG equipment fault
r.C.FL	RAG communications fault
FAIL	JTL network communications failure
OTHER TEXT	
JTL	Start-up message
Ch.xx	Channel JTL unit number follows this text
rEAd	Temperature data follows this text
AL.St	Channel alarm status follows this text
nonE	No alarm present
t-AL	Temperature alarm
Func	Display function mode
dAtA	Display data mode
or	Overrange reading