Grant 1208 and 1258

DATA SHEET FOR SQUIRREL MODELS 1208 AND 1258

CHANNELS AND RANGES

Squirrel models 1208 and 1258 have nineteen input channels.

Each channel can be set to any of the ranges available for that channel, or not set.

CHANNEL NO	INPUT TYPE	AVAILABLE RANGES	RESOLUTION ON DISPLAY	RESOLUTION IN MEMORY
1 - 12	DC Voltage	-20 to +20V	10mV	
		-2 to +2V	1mV	
		-200 to +200 mV	100uV	
		-20 to +20mV	10uV	
	OR			
	DC Current	-20 to +20mA	10uA	
		-2 to +2mA	1uA	
		4 to 20mA (displayed as 0-100%)	0.05%	
	Voltage/current channels are grouped in pairs (1 & 2; 3 & 4; 5 & 6; 7 & 8; 9 & 10; 11 & 12). If one channel of a pair is set to a voltage range, the other channel of the pair can only be set to any voltage range. Similarly, if one of a pair is set to a current range, the other can only be set to any currrent range.			
13 - 16	DC Current	-20 to +20mA	10uA	
		-2 to +2mA	1uA	
		4 to 20mA (displayed as 0-100%)	0.05%	
17,18	Pulse rate	0 to 62.5kHz	1Hz	
	OR			
	Pulse count	0 to 62,500	1	
		0 to 625,000	10	
		0 to 6,250,000	100	
19	Digital	0 to 255	1	
	OR			
	State	0 or 1 (set as H1010)	0 or 1	

Minimum record or scan interval depends on the number of analogue channels set to log (pulse and state/digital channels do not affect the minimum interval).

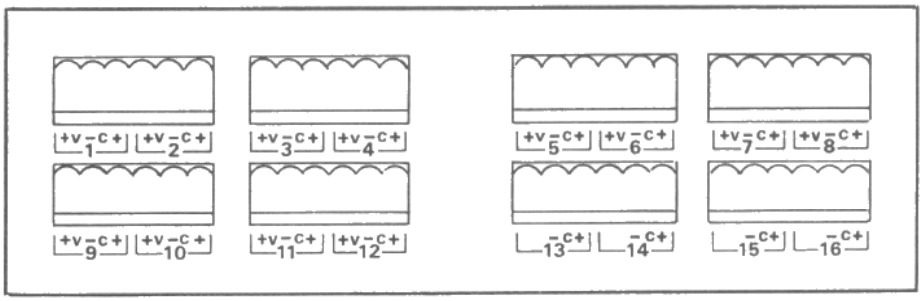
No of analogue channels set to log	Minimum interval (scan or record)
1 to 6	1 sec
7 to 12	2 secs
13 to 16	3 secs

MEASURING INPUT TYPES AND DETAILS

Channels 1 to 16	Voltage - 1 Megohm input impedance. Current - 10 Ohm input impedance.
Channels 17 and 18	Voltage pulses must have low level below 0.5V d.c., high level between 4 and 20V d.c. Minimum pulse length 8us, minimum interval between pulses 8us (maximum frequency 62.5kHz). Contact closures can also be counted if terminals S and - are linked to connect debounce circuits. Minimum closure 5ms, minimum interval between closures 5ms (maximum frequency 100Hz).
Channel 19	Voltage. Low level (stored as 0) must be below 0.8V d.c., high level (stored as 1) between 2 and 6V d.c. The Squirrel is CMOS and TTL compatible with each input held high (through a 1 Megohm resistor) to the internal regulated 5V supply. Contact closures can also be used. Contact closed is stored as 0, open as 1.

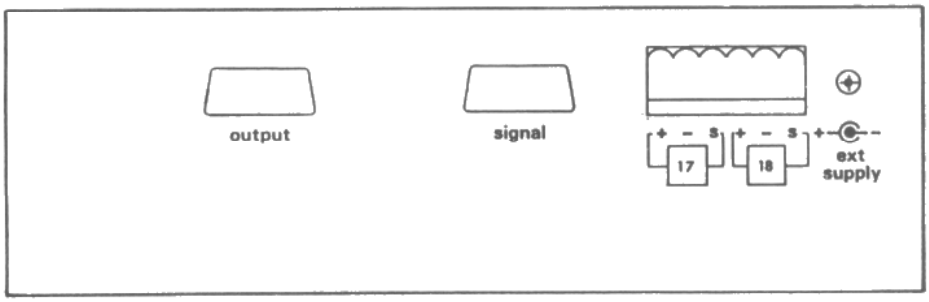
INPUT AND OUTPUT CONNECTIONS - Squirrel models 1208 and 1258

Inputs on top of Squirrel



Voltage/Current - Male sockets for black 6-way plug-in female terminal blocks (3 ways per channel).
NEVER CONNECT A VOLTAGE BETWEEN C+ AND -, OR BETWEEN V+ AND - WHEN SET TO A CURRENT RANGE.

Inputs and outputs on base of Squirrel



15-way female D connector (screw locking on 1250s)

15-way male D connector (screw locking on 1250s)

Pulse count/rate - Male sockets for orange 6-way plug-in female terminal blocks (3 ways per channel)
Connect **hi** to **+**, **lo** to **-**. Connect **S** to - when counting contact closures.

Male socket for standard power supply plug

1200 Series Squirrel
Output connector pins

Pin 1	Common - Squirrel ground	
" 2	Data Strobe	Printer Connections
" 3	Data bit 1	
" 4	" 2	
" 5	" 3	
" 6	" 4	
" 7	" 5	
" 8	" 6	
" 9	" 7	
" 10	" 8	
" 11	Busy	
" 12	Sensor switch-on	
" 13	RS232 In	Computer Connections
" 14	RS232 Out	
" 15	Acknowledge - Printer Connection	

1250 Series Squirrel
Output connector pins

Pin 1	Common - Squirrel ground	
" 2		DO NOT USE
" 3		
" 4		
" 5		
" 6		
" 7		
" 8		
" 9		
" 10		
" 11	Activate Remote operation	
" 12	Sensor switch-on	
" 13	RS232 In	Computer/Modem Connections
" 14	RS232 Out	
" 15	DO NOT USE	

1200/1250 Series Squirrel
Signal connector pins

Pin 1	Event/Digital data bit 1 (hi)
" 2	" 2 (hi)
" 3	" 3 (hi)
" 4	" 4 (hi)
" 5	" 5 (hi)
" 6	" 6 (hi)
" 7	" 7 (hi)
" 8	" 8 (hi)
" 9	Common - Squirrel ground (and Event/Digital lo)
" 10	1Hz clock pulse input
" 11	1 Hz clock pulse output
" 12	External Reading Link
" 13	External Reading Trigger Input
" 14	Latched Alarm Output
" 15	Non-latched Alarm Output

SIGNAL INPUT/OUTPUT DETAILS

External trigger input	Voltage levels: START - less than 0.5V d.c. STOP - 4 to 6V d.c. Contact closures: START - contacts closed STOP - contacts open
Alarm outputs	Internal contacts close when any channel is in an alarm state. One pair of contacts opens when all channels are no longer in alarm state, the other is latched to remain closed until reset. Contacts can pass up to 50mA from external source of up to 25V d.c.
Sensor switch-on output	Internal contacts close 5 seconds before each set of readings is taken in interval and averaging modes, and continuously while in function 2 (meter). Contacts remain closed until final reading of the set is taken. They can pass up to 50mA from an external source of up to 25V d.c.
Printer output	1200 Series: Centronics type **Please note - 1250 Series Squirrels have no direct output to printer**
Computer communications	RS232, baud rate 300, 600, 1200, 2400, 4800, 9600 (1200 Series also 19200)

Grant Instruments is committed to a continuous programme of improvement and therefore reserves the right to change specifications without notice.

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