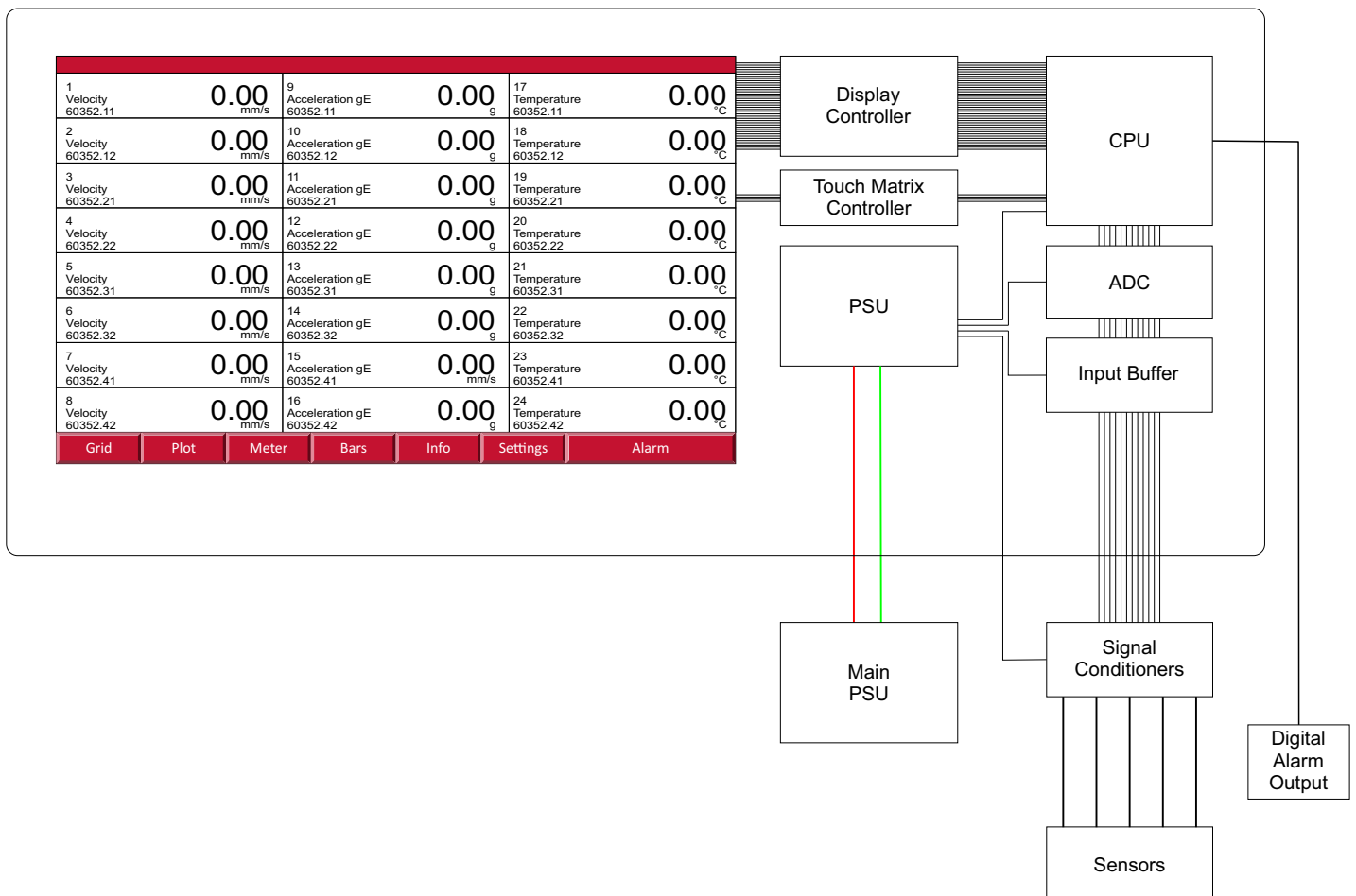




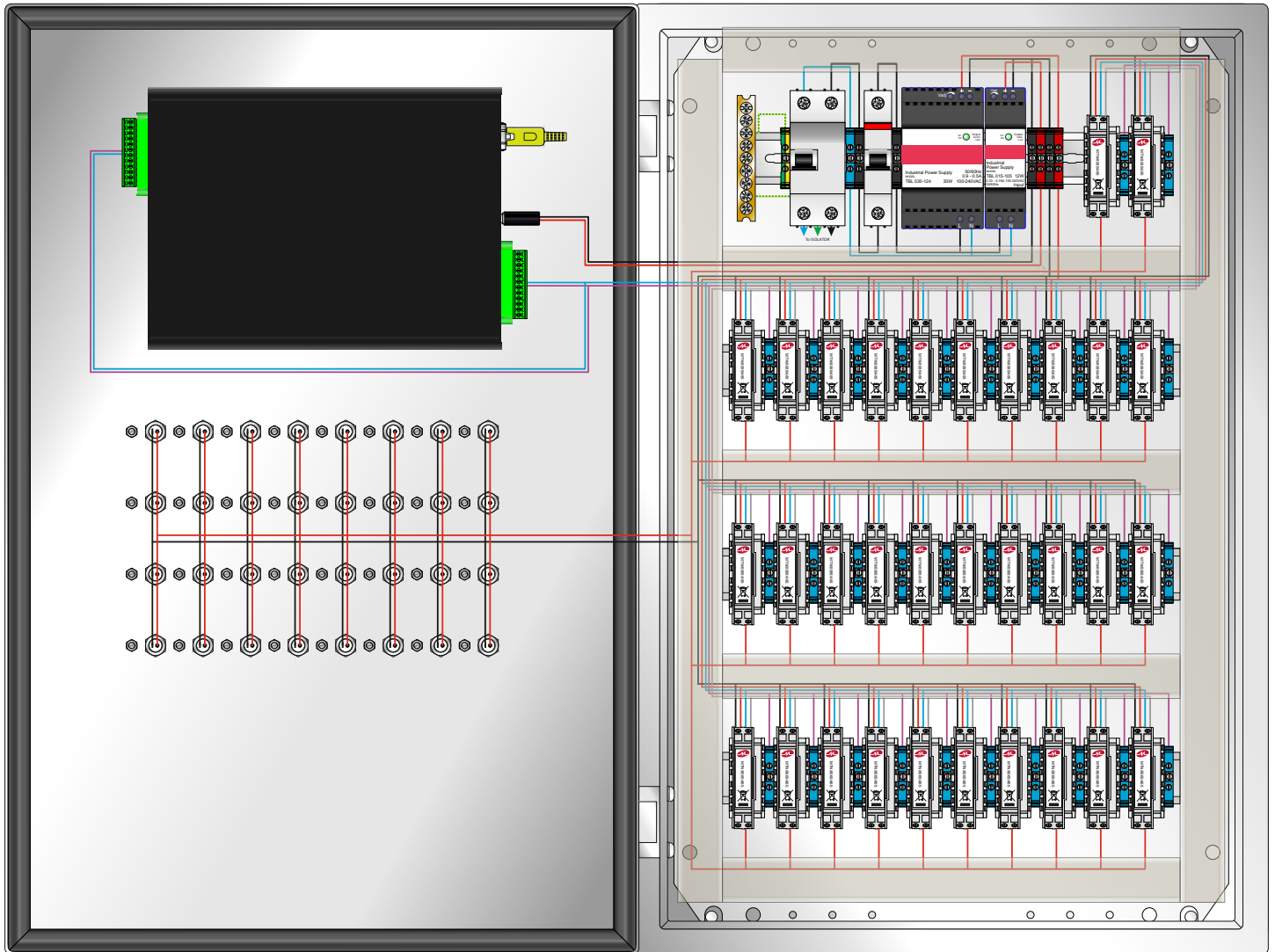
Introduction:

The microcontroller-based MTN5032 system features high resolution monitoring of multiple analogue channels. An alarm threshold can be set for each channel and digital output will activate in over-alarm conditions.


System diagram:



System Connections:



See configuration sheet(s) for communication parameters.



Monitran Ltd. Monitor House, Hazlemere Road
 Park, Bucks, HP12 8JG England
 TEL: +44 (0) 1494 815569
 FAX: +44 (0) 1494 812156
 Web: www.monitran.co.uk

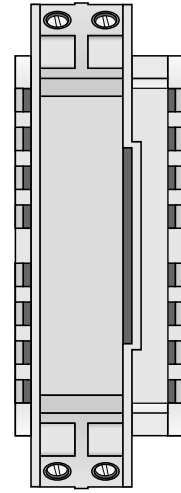
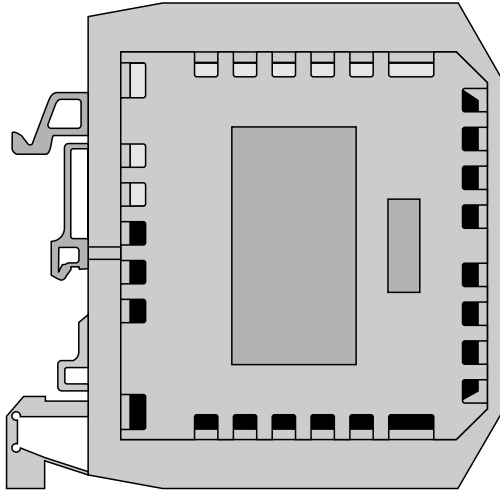
MTN/5000 System Configuration

Customer Name	Works Order:	12345
Address	Customer ID:	PO6789
	Date:	07 May 2015
	Order reference:	Project XYZ

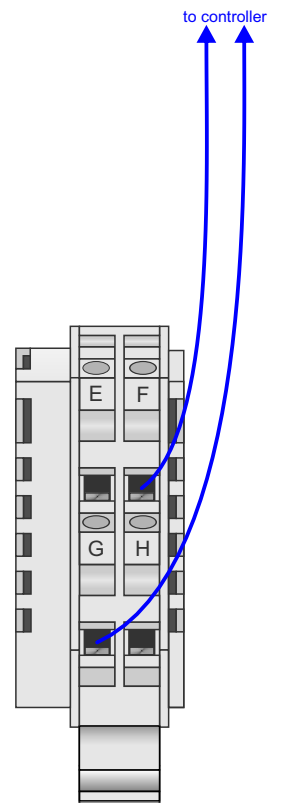
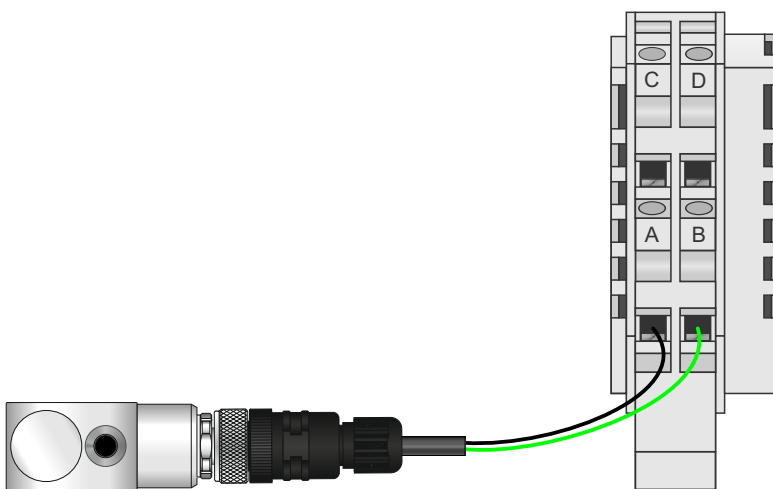
Screen:	3.5" (Door mount)	Page/Row/Col:	1/6/2	
Channels:	12	Power:	110-240VAC	Modbus TCP/IP
Cable Glands:	12			192.168.57.102
BNC Mounting:	8 (Door mount)			2002
Beacon:	No			2
Enclosure:	GRP 350x250x150			40001 - 40012

Channel	Label	Measurement	Range	Signal
1	Motor DE bearing radial	Velocity	0 - 25mm/s	MTN/8006-0471
2	Gearbox bevel input bearing radial	Velocity	0 - 25mm/s	MTN/8006-0471
3	Gearbox bevel input bearing axial	Velocity	0 - 25mm/s	MTN/8006-0471
4	Gearbox oil temperature	Oil temperature	-30°C to +130°C	4-20mA
5	Headshaft bearing velocity	Velocity	0 - 25mm/s	MTN/8006-0471
6	Headshaft bearing temperature	Temperature	0°C to 100°C	0-1VDC
7	Motor DE bearing radial	Velocity	0 - 25mm/s	MTN/8006-0471
8	Gearbox bevel input bearing radial	Velocity	0 - 25mm/s	MTN/8006-0471
9	Gearbox bevel input bearing axial	Velocity	0 - 25mm/s	MTN/8006-0471
10	Gearbox oil temperature	Oil temperature	-30°C to +130°C	4-20mA
11	Headshaft bearing velocity	Velocity	0 - 25mm/s	MTN/8006-0471
12	Headshaft bearing temperature	Temperature	0°C to 100°C	0-1VDC

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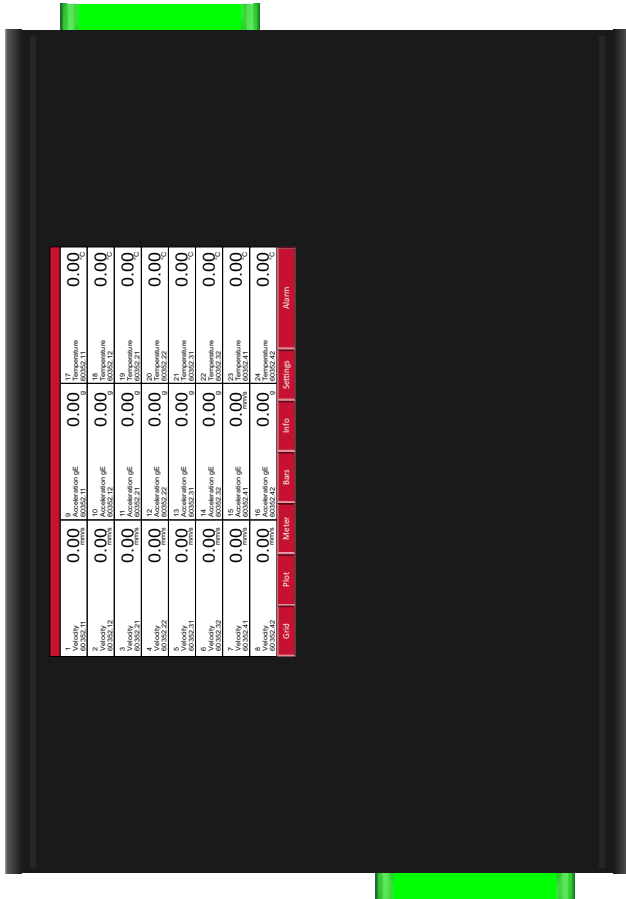



- A Common
- B Input from sensor
- C Buffered AC output
- D n/c
- E +24VDC
- F Velocity output 0-3VDC output
- G Envelope g output 0-3VDC
- H Common



Controller :

See configuration sheet(s) for channel labels.





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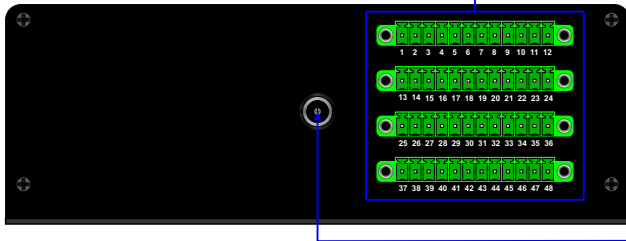
MTN/5000 System Configuration

Customer Name	Works Order:	12345
Address	Customer ID:	P06789
	Date:	07 May 2015
	Order reference:	Project XYZ

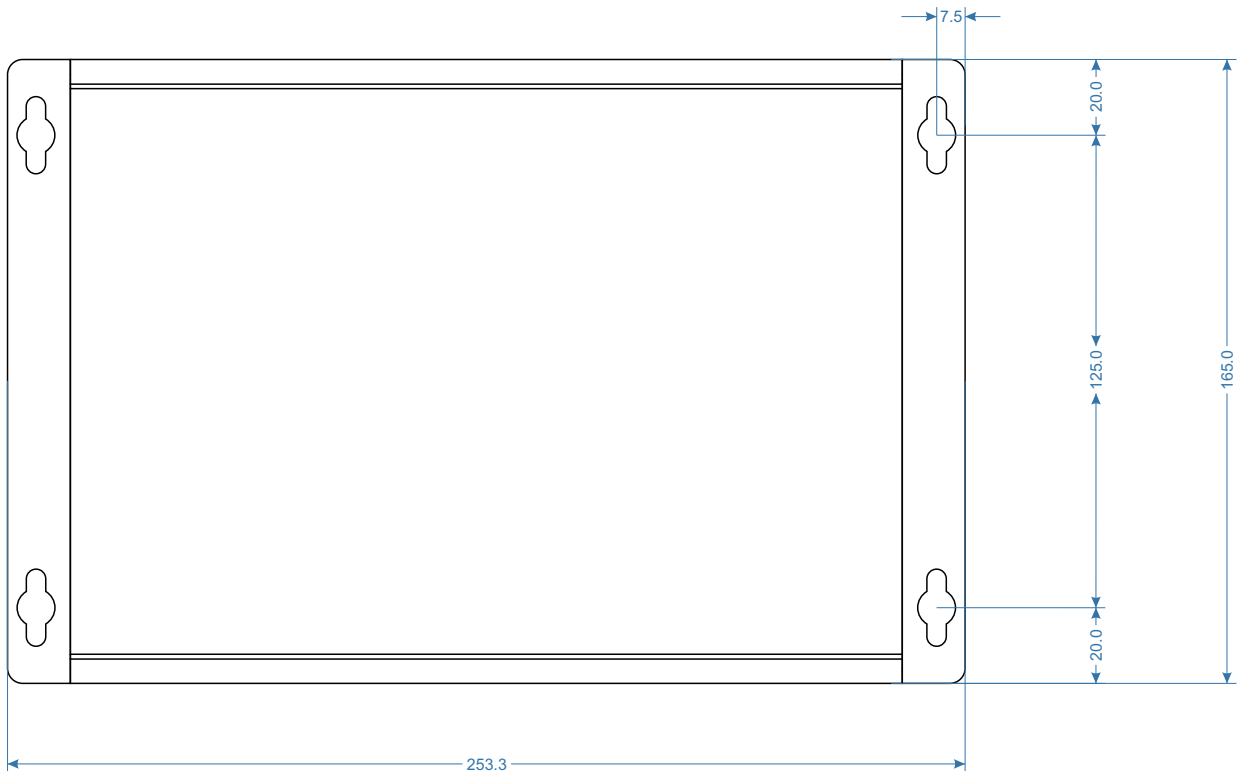
Screen:	3.5" (Door mount)	Page/Row/Col:	1/6/2
Channels:	12	Power:	110-240VAC
Cable Glands:	12	Communications:	Modbus TCP/IP
BNC Mounting:	8 (Door mount)	IP address:	192.168.57.102
Beacon:	No	Port:	2002
Enclosure:	GRP 350x250x150	Slave ID:	2
		Registers:	40001 - 40012

Channel	Label	Measurement	Range	Input
1	Motor DE bearing radial	Velocity	0 - 25mm/s	MTN/8006-0471
2	Gearbox bevel input bearing radial	Velocity	0 - 25mm/s	MTN/8006-0471
3	Gearbox bevel input bearing axial	Velocity	0 - 25mm/s	MTN/8006-0471
4	Gearbox oil temperature	Oil temperature	-30°C to +130°C	4-20mA
5	Headshaft bearing velocity	Velocity	0 - 25mm/s	MTN/8006-0471
6	Headshaft bearing temperature	Temperature	0°C to 100°C	0-1VDC
7	Motor DE bearing radial	Velocity	0 - 25mm/s	MTN/8006-0471
8	Gearbox bevel input bearing radial	Velocity	0 - 25mm/s	MTN/8006-0471
9	Gearbox bevel input bearing axial	Velocity	0 - 25mm/s	MTN/8006-0471
10	Gearbox oil temperature	Oil temperature	-30°C to +130°C	4-20mA
11	Headshaft bearing velocity	Velocity	0 - 25mm/s	MTN/8006-0471
12	Headshaft bearing temperature	Temperature	0°C to 100°C	0-1VDC

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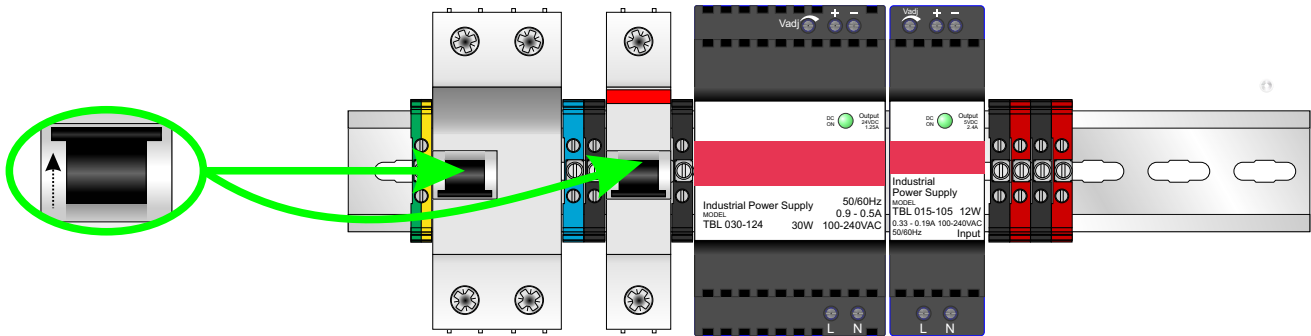


Power input (5.8VDC)
2.1/5.5mm



Powering up

Flip the switches up to turn power on.



Main Grid:

Monitored data is presented in a numeric grid.

1 Velocity 60352.11	0.00 mm/s	9 Acceleration gE 60352.11	0.00 g	17 Temperature 60352.11	0.00 °C
2 Velocity 60352.12	0.00 mm/s	10 Acceleration gE 60352.12	0.00 g	18 Temperature 60352.12	0.00 °C
3 Velocity 60352.21	0.00 mm/s	11 Acceleration gE 60352.21	0.00 g	19 Temperature 60352.21	0.00 °C
4 Velocity 60352.22	0.00 mm/s	12 Acceleration gE 60352.22	0.00 g	20 Temperature 60352.22	0.00 °C
5 Velocity 60352.31	0.00 mm/s	13 Acceleration gE 60352.31	0.00 g	21 Temperature 60352.31	0.00 °C
6 Velocity 60352.32	0.00 mm/s	14 Acceleration gE 60352.32	0.00 g	22 Temperature 60352.32	0.00 °C
7 Velocity 60352.41	0.00 mm/s	15 Acceleration gE 60352.41	0.00 mm/s	23 Temperature 60352.41	0.00 °C
8 Velocity 60352.42	0.00 mm/s	16 Acceleration gE 60352.42	0.00 g	24 Temperature 60352.42	0.00 °C

Grid | Plot | Meter | Bars | Info | Settings | Alarm | Page

Units
Channel
Data value

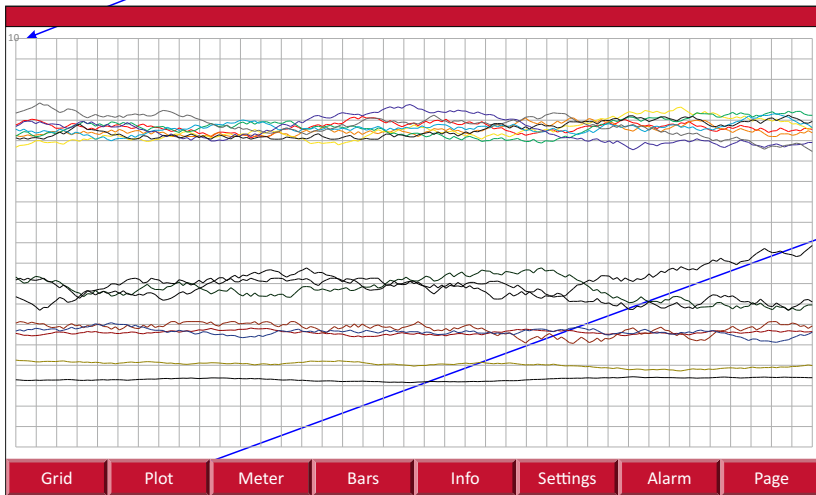
Data is presented on 3 pages, each showing 24 channels. Tap <Page> to scroll through pages.

The controller will turn off the screen after 5 minutes of inactivity, but continue monitoring vibration.

The screen will turn on when a new alarm condition occurs and remain on until the alarm is reset or acknowledged.

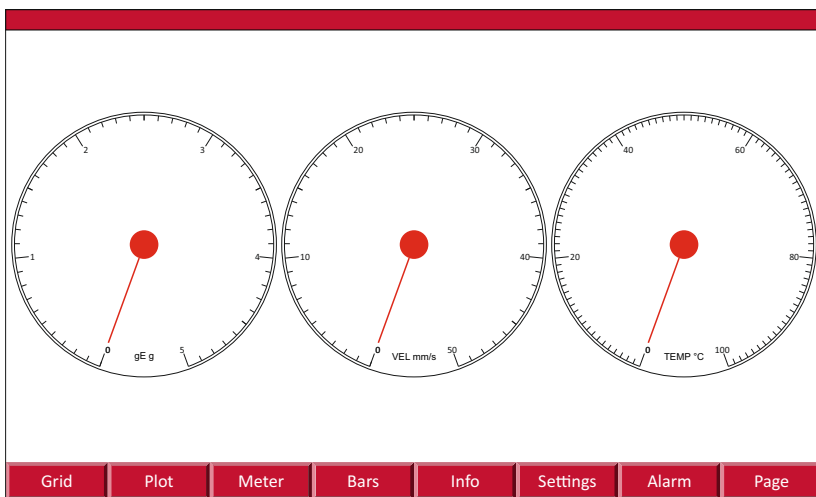
Touch anywhere on the screen to resume.

Y axis full scale

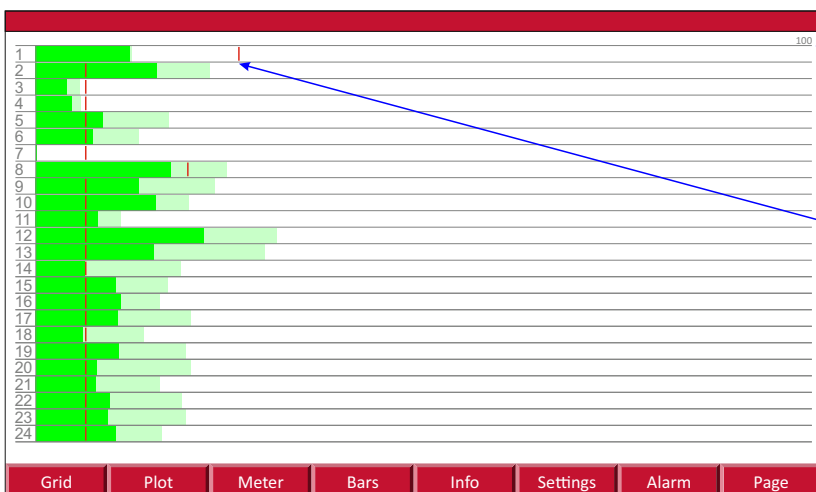


The plot screen displays channel values over time. The plot screen is 780 samples wide and displays 6.5 minutes of data @ 2Hz (default).

Tap the plot button to show/hide the channel key.



The meters screen displays current channel values on analogue meters.



The bars screen displays current channel values on a horizontal scale.

X axis full scale

Channel alarm threshold

■ Current value

■ Maximum value

Alarms:

An independent alarm is available on each of the channels.

When the data value exceeds the alarm value for a channel, the alarm is triggered and will stay on until reset, or the unit is powered down.

Data value will turn orange if alarm threshold exceeded.

1 Velocity 60352.11	0.00 mm/s	9 Acceleration gE 60352.11	0.00 g	17 Temperature 60352.11	0.00 °C
2 Velocity 60352.12	0.00 mm/s	10 Acceleration gE 60352.12	0.00 g	18 Temperature 60352.12	0.00 °C
3 Velocity 60352.21	0.00 mm/s	11 Acceleration gE 60352.21	0.00 g	19 Temperature 60352.21	0.00 °C
4 Velocity 60352.22	0.00 mm/s	12 Acceleration gE 60352.22	0.00 g	20 Temperature 60352.22	0.00 °C
5 Velocity 60352.31	0.00 mm/s	13 Acceleration gE 60352.31	0.00 g	21 Temperature 60352.31	0.00 °C
6 Velocity 60352.32	0.00 mm/s	14 Acceleration gE 60352.32	0.00 g	22 Temperature 60352.32	0.00 °C
7 Velocity 60352.41	0.00 mm/s	15 Acceleration gE 60352.41	0.00 mm/s	23 Temperature 60352.41	0.00 °C
8 Velocity 60352.42	0.00 mm/s	16 Acceleration gE 60352.42	0.00 g	24 Temperature 60352.42	0.00 °C

Grid Plot Meter Bars Info Settings Alarm Page

Alarm threshold exceeded.

Data value will turn red and latch if alarm threshold and alarm delay period exceeded.
The alarm output will switch to HIGH.
The alarm will remain latched (even if the level falls below the threshold) until reset.

1 Velocity 60352.11	0.00 mm/s	9 Acceleration gE 60352.11	0.00 g	17 Temperature 60352.11	0.00 °C
2 Velocity 60352.12	0.00 mm/s	10 Acceleration gE 60352.12	0.00 g	18 Temperature 60352.12	0.00 °C
3 Velocity 60352.21	0.00 mm/s	11 Acceleration gE 60352.21	0.00 g	19 Temperature 60352.21	0.00 °C
4 Velocity 60352.22	0.00 mm/s	12 Acceleration gE 60352.22	0.00 g	20 Temperature 60352.22	0.00 °C
5 Velocity 60352.31	0.00 mm/s	13 Acceleration gE 60352.31	0.00 g	21 Temperature 60352.31	0.00 °C
6 Velocity 60352.32	0.00 mm/s	14 Acceleration gE 60352.32	0.00 g	22 Temperature 60352.32	0.00 °C
7 Velocity 60352.41	0.00 mm/s	15 Acceleration gE 60352.41	0.00 mm/s	23 Temperature 60352.41	0.00 °C
8 Velocity 60352.42	0.00 mm/s	16 Acceleration gE 60352.42	0.00 g	24 Temperature 60352.42	0.00 °C

Grid Plot Meter Bars Info Settings Alarm Page

Alarm latched



The ALARM button will continue to flash until the new alarm is acknowledged or reset.

Once acknowledged, the ALARM button will stop flashing and the alarm output will return to its LOW state, but the channel will remain latched until reset.

Alarms:

1 Velocity 60352.11	0.00 mm/s	9 Acceleration gE 60352.11	0.00 g	17 Temperature 60352.11	0.00 °C
2 Velocity 60352.12	0.00 mm/s	10 Acceleration gE 60352.12	0.00 g	18 Temperature 60352.12	0.00 °C
3 Velocity 60352.21	0.00 mm/s	11 Acceleration gE 60352.21	0.00 g	19 Temperature 60352.21	0.00 °C
4 Velocity 60352.22	0.00 mm/s	12 Acceleration gE 60352.22	0.00 g	20 Temperature 60352.22	0.00 °C
5 Velocity 60352.31	0.00 mm/s	13 Acceleration gE 60352.31	0.00 g	21 Temperature 60352.31	0.00 °C
6 Velocity 60352.32	0.00 mm/s	14 Acceleration gE 60352.32	0.00 g	22 Temperature 60352.32	0.00 °C
7 Velocity 60352.41	0.00 mm/s	15 Acceleration gE 60352.41	0.00 mm/s	23 Temperature 60352.41	0.00 °C
8 Velocity 60352.42	0.00 mm/s	16 Acceleration gE 60352.42	0.00 g	24 Temperature 60352.42	0.00 °C



To reset all alarms:

Press settings

Press Reset alarms

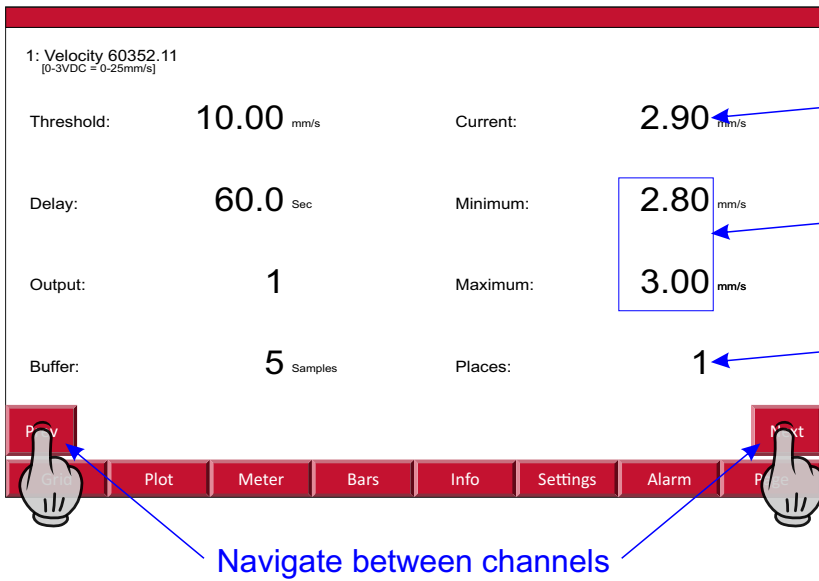
Sample rate:	2.00 Hz	Network
Screen refresh:	2.00 Hz	Reset Alarms
		System Code

1 Velocity 60352.11	0.00 mm/s	9 Acceleration gE 60352.11	0.00 g	17 Temperature 60352.11	0.00 °C
2 Velocity 60352.12	0.00 mm/s	10 Acceleration gE 60352.12	0.00 g	18 Temperature 60352.12	0.00 °C
3 Velocity 60352.21	0.00 mm/s	11 Acceleration gE 60352.21	0.00 g	19 Temperature 60352.21	0.00 °C
4 Velocity 60352.22	0.00 mm/s	12 Acceleration gE 60352.22	0.00 g	20 Temperature 60352.22	0.00 °C
5 Velocity 60352.31	0.00 mm/s	13 Acceleration gE 60352.31	0.00 g	21 Temperature 60352.31	0.00 °C
6 Velocity 60352.32	0.00 mm/s	14 Acceleration gE 60352.32	0.00 g	22 Temperature 60352.32	0.00 °C
7 Velocity 60352.41	0.00 mm/s	15 Acceleration gE 60352.41	0.00 mm/s	23 Temperature 60352.41	0.00 °C
8 Velocity 60352.42	0.00 mm/s	16 Acceleration gE 60352.42	0.00 g	24 Temperature 60352.42	0.00 °C



To set alarm, tap the channel to change.

Alarms:

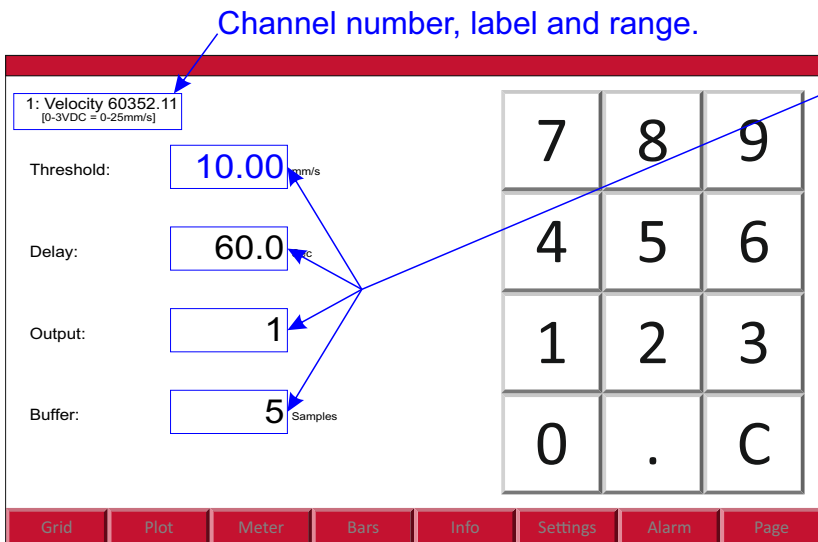


Current value for selected channel

Minimum and maximum values.
Tap to reset.

Number of decimal places to use.
Tap to change 0→1→2

Navigate between channels



Channel number, label and range.

Tap on setting to change.

The field will turn blue.

Enter value on keypad.

Press **C** to cancel, if required.

Tap the field when finished to set.

The buffer will smooth the values for each channel.

Higher values will result in smoother readings, but will take longer to respond to changes.

IMPORTANT:

Once setting is complete, data must be saved before powering down:

- 1: tap Settings
- 2: tap System Code
- 3: type 34150
- 4: press OK

Specifications - main enclosure

Input voltage:	100-240VAC @ 0.5A (47-63Hz)
Dimensions:	W400 x H600 x D210 mm
Material:	304 Stainless steel
Ingress protection:	IP66

Specifications - controller:

Enclosure:	Black anodised aluminium
Enclosure dimensions:	W220 x D165 x H56 mm
Display:	5.0" touch 800 x 480 RGB (154 x 86 mm)
Supply voltage:	5.8VDC
Current consumption:	650mA (display on) 390mA (display off)

Settings ranges:

Threshold	0.00 - 999.99	units
Delay	0.0 - 9999.97	seconds
Output	1	
Buffer	1 - 20	samples

