



4B Braime Components

Watchdog™ Super Elite (WDC4) Upgrade Compatibility & Advantages

Many of the key features for the Watchdog Super Elite (WDC4) were developed from feedback received by 4B customers. The table below details all of the key features between the previous WDC3 model and the new WDC4 Watchdog Super Elite.

How easy is it to upgrade from the WDC3? If you already are using NTC type temperature sensors, all you have to do is replace the control unit. The wiring connections are the same.

If you are not using NTC type temperature sensors, then you will have to upgrade some of the sensors too.

A 4B technical sales representatives can answer all your questions to insure that the entire upgrade process is easy and hassle free.



Watchdog Super Elite - WDC4

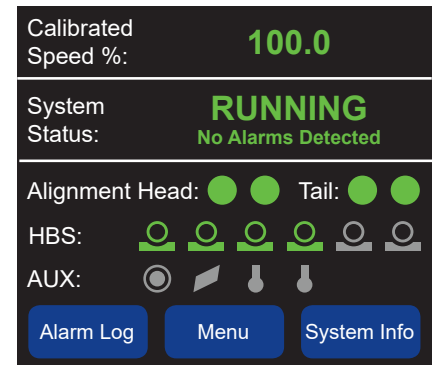
WATCHDOG MODEL COMPARISON

KEY FEATURES	WDC3	WDC4
Total Sensor Inputs	10	27*
Push Button Controls (Non-Capacitance)	✗	✓
Internal Event and Alarm Logging	✗	✓
PLC Connectivity - Modbus TCP/IP or ControlLogix®**	✗	✓
3.5" Color Graphics LCD Display	✗	✓
System Settings Backup and Transfer	✗	✓
HazardMon.com Compatible - Cloud Based Monitoring	✗	✓

OTHER FEATURES	WDC3	WDC4
Continuous Temperature Inputs (NTC)	6	20*
Touchswitch Belt Misalignment	✓	✓
Rub Block Belt Misalignment	✗	✓
Belt Speed & Slip Monitoring for Variable Frequency Drives	✗	✓
Ambient Temperature Monitoring	✗	✓
Jog and Acceleration Monitoring	✗	✓
Machine Run Time Monitoring	✗	✓
System Status on LCD Display (At a Glance)	Partial	✓
System Setup via the Control Units LCD Menu	✓	✓
Remote System Setup with Configurator Software	✗	✓
Preprogrammed Monitoring Configurations	✗	✓

* WDC4 Auxiliary Boards Expand NTC Temperature Inputs from 8 to 20

** ControlLogix® Integration requires ProSoft® gateway



WDC4 LCD Screen



Retired WDC3 Model

HBS Info				
		AMB 1:	86.4	
		AMB 2:	87.6	
Sensor	Value	Abs.	Rel.	Trip
HBS#1	112	140	30	N/A
HBS#2	163	140	30	N/A
HBS#3	102	140	30	N/A
HBS#4	101	140	30	N/A
HBS#5	OFF	N/A	N/A	N/A
HBS#6	OFF	N/A	N/A	N/A

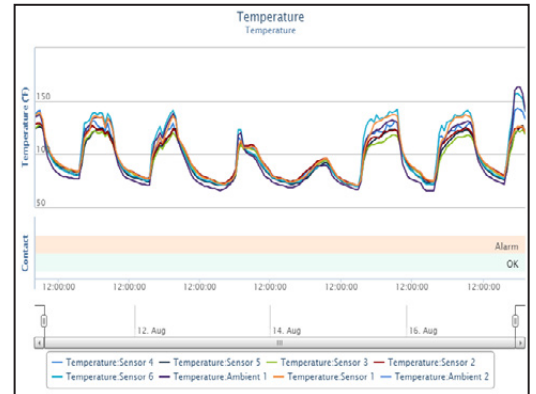
Previous Next Exit

The LCD screen indicates a hot bearing sensor (HBS#2). The left menu (HBS Info) shows the bearing sensor temperatures, and trip points.

Date: Fri, Feb 26 2016
 Time: 20:25:57
 Entry Type: Alarm Detected
 Entry Source: HBS2
 Condition: Absolute Alarm
 Temperature units: Deg F
 Sensor Temperature [Deg]: 163
 Absolute Alarm [Deg]: 140

Back

The menu shows the alarm log details which can be viewed directly from the Watchdog's main LCD screen.



HazardMon.com is a cloud based solution that can be utilized to log alarms and sensor data, graph trend lines, and send email alerts.

RECENT CUSTOMER UPGRADES

These are just a few customer examples highlighting the simplicity of WDC4 system upgrades since the release of the Watchdog Super Elite earlier this year.

- 1. Customer Upgrading from Trip Point (PTC) to Continuous Temperature (NTC) sensors -**
 The existing Watchdog (WDC3) control unit was replaced with the latest WDC4 Super Elite with minimal wiring changes. All Control and sensor wiring remained the same and the old PTC sensors were easily replaced. This provided the customer with continuous bearing temperature monitoring/logging of each individual bearing allowing earlier indication of bearing issues and better preventative maintenance.
- 2. Customer upgrading to WDC4 for expanded monitoring capabilities -**
 The WDC3 with continuous Temperature (NTC) sensors was upgraded to the WDC4 Super Elite in order to monitor additional bearings on a drag conveyor feeding an elevator leg. Similarly, another customer upgraded to the WDC4 to monitor tail pulley misalignment on an enclosed belt conveyor with a snubber pulley. Each application required additional continuous Temperature (NTC) sensors to be installed. Both upgrades were simple and hassle free and the existing control wiring did not need to be altered. The new WDC4 can actually monitor up to 20 continuous temperature inputs using expansion boards, thus providing more options for the future.
- 3. Customer upgrading to WDC4 in order to connect to the plant's new PLC -**
 The Upgrade was simple and with the WDC4's in built MODBUS TCP/IP connection, connectivity to the PLC was easy. ProSoft® has published a technical note for interfacing ControlLogix® PLC's to the new WDC4 control unit.



SENSOR & SYSTEM TESTING

The SpeedMaster™ accurately tests the underspeed alarm and shutdown trip points and will verify the complete underspeed system allowing you to fully comply with OSHA 1910.272 for underspeed monitoring.

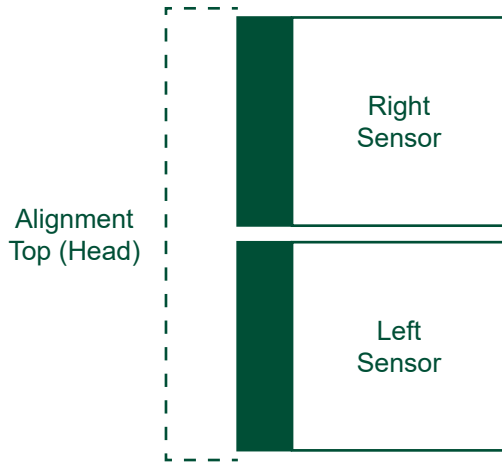
The ADB Sensor Tester tests 4B adjustable depth bearing (ADB) temperature sensors in the field. The unit heats the sensor to the desired trip point, and allows quick and easy real life testing of the entire temperature monitoring system.



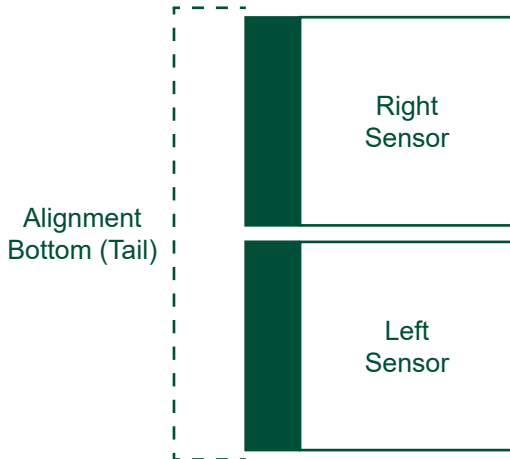
SENSOR WIRING OVERVIEW WDC3 TO WDC4 UPGRADE

WDC4 PROFILE SELECTION (SEE MANUAL) -

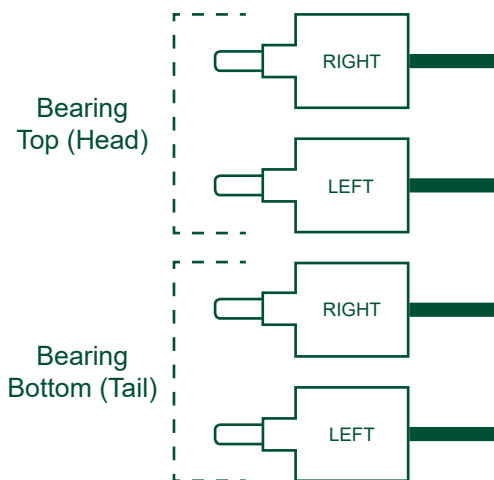
MENU > SETUP (PASSWORD) > PROFILE > SELECT NEW PROFILE > LEG (WDA) 4MA, 4BS



WDC3	WDC4	WDC4 TERMINAL
1	44	0 VDC
----	43	Speed Sensor
----	42	Pulley Sensor
----	41	Plug Sensor
----	40	Head Rub - Right (T#12)
----	39	Head Rub - Left (T#11)
3A	38	Head Align - Right
2A	37	Head Align - Left
5 (1)	36	+24 VDC (F1)



WDC3	WDC4	WDC4 TERMINAL
1	35	0 VDC
----	34	Tail Rub - Right (T#10)
----	33	Tail Rub - Left (T#9)
3B	32	Tail Align - Right
2B	31	Tail Align - Left
5 (1)	30	+24 VDC (F2)



WDC3	WDC4	WDC4 TERMINAL
----	29	0 VDC
----	28	Bearing Temp Sensor (T#6)
----	27	Bearing Temp Sensor (T#5)
4D	26	Bearing Temp Sensor (T#4)
4C	25	Bearing Temp Sensor (T#3)
4B	24	Bearing Temp Sensor (T#2)
4A	23	Bearing Temp Sensor (T#1)
----	22	Ambient Sensor 2 (T#8)
----	21	Ambient Sensor 1 (T#7)
----	20	+24 VDC (F3)

