

Crane Data Recorder



General Information

The crane data recorder (CDR) has been designed to capture some of the basic data that engineers need to analyse the design life or service schedule of any crane or hoist.

The CDR components are all enclosed in a metal IP55 enclosure. Higher IP rating enclosures are also available on request. For harsh condition stainless steel enclosure are also available.

The CDR has been designed using high quality parts to give a trouble free operation.

No special software is needed and all the data can be viewed and downloaded in seconds - depending on which model you have selected, the data can be viewed and downloaded using laptop, or any other device such as smart phone, note pad, tablet etc.

Depending on the client's individual needs, some of our more sophisticated models can e-mail data weekly or monthly, and if there is fault with crane, an SMS can be sent advising that a fault has occurred, along with some helpful diagnostic information. A remote access option is also available, provided there is telecommunication access available data can be viewed and downloaded no matter where in the world the unit is situated.

The CDR has been designed to operate between 415 to 440volts 50Hz – this voltage is always available on a crane. The on board power supply has enough capacity to operate most of the auxiliary devices such as warning light, encoders, large display unit up to 75mm 6 digit display operating on 240V AC, and a touch screen if required.

The downloaded data is an SV file that can be opened using Microsoft Excel - the raw data needs to be formatted. This can easily be done by transferring to a preformatted sheet this file is supplied with each CDR unit.



System Options



Information display

displays are available in both 58mm and 100mm sizes



Optional fault warning light

	Open Cr	ane log file				CR/	ANE	DATA I	REC	CORE)S							
		,	CRANE GENERAL INFORMATION						HOIST									
		CLIENT NAME	CRANE ID	CRANE TYPE	CRANE M.R.C.			DATE		HOIST H		IOIST FULL LOAD		F. LOAD HRS		NORMAL		
DATE		OLIENT HAME	NUMBER	on and the	CLASS	IN KG.	G. COMMISION		SERIAL		CLASS	HRS USED		REMAINING		HRS DONE		
09/05/2011	19:00:00	HYDROMECH	V0000	SINGLE B.	C4	5000	22 (04 2011	10 06	06 1345 M		1.6896		798.31		19.316		
10/05/2011	10:00:00	HYDROMECH	V0000	SINGLE B.	C4	5000	22 (04 2011	10 06	10 06 1345		0.37971		799.62		5.4803		
11/05/2011	10:00:00	HYDROMECH	V0000	SINGLE B.	C4	5000	22	04 2011	10 06 1345		M4	4 0.37998		/99.62		6.2778		
12/05/2011	10:00:00	HYDROMECH	V0000	SINGLE B.	64	5000	22	22 04 2011		061345 M4		0.38009		/99.62		6.7986		
	CRANE DATA RECORDS																	
	HOIST																	
DATE	LOAD	HRS OVER	No.TIMES	No.	START	S IN ST	ARTS I	Ν ΤΟΤΑ	L	OVER	STAF	TS ST.	STARTS	STARTS	START	TS OVER		
	SPECTRU	M M.R.C.	OVER M.R.C.	OVERLOADS	SLO	W	FAST	STAR	TS	R.H.S.	HRS	1 H	RS 2	HRS 3	HRS	RS 4 TEMP		
09/05/2011	0.08747	0.438	55	69	163	3	278	8 1911		46	1		9	11	2	94		
10/05/2011	0.06929	0.131	81	62	591	0	4157	1006	7	124	26	1	159	170	67	21		
11/05/2011	0.06053	0.131	81	62	654	4	4897	1144	441 126		97		44	190	12	21		
12/05/2011	0.05591	0.131	81	62	701	4	5380	1239	4 126		20	20 102		82 28		21		
CRANE DATA RECORDS																		
	TRAVEL										TRAVERSE							
DATE	HOURS	0 HOURS	25 HOURS	50 HOURS	75	TRAVEL		HOURS 0		HOURS 25		HOURS 50		HOURS 75		TRAVERSE		
DATE	TO 259	6 TO 50	% TO 75	% TO 110	% T(DTAL HR	S	TO 25%	1	TO 50%		TO 75%		TO 110%		TOTAL HRS		
09/05/2011	4.08	4.08 0.23		1.08 0.40		5.79		0.50		0.55		0.04		0.10		1.18		
10/05/2011	2.29	0.07	0.05	0.09	2.50		2.74			0.04		0.02		0.03		2.83		
11/05/2011	2.76	0.07	0.05	0.09	2.97		3.24			0.04		0.02		0.03		3.33		
12/05/2011	3.09	0.07	0.07 0.05		0.09		0 3.58			0.04		0.02		0.03		3.66		
				CRAN	NE DA	TA R	ECO	RDS										
	HOIST SPEED MONITOR								CRANE CYCLES SERVIC									
DATE	HOIST DR	UM HOIS	T DIREC	TION STAN	DBY	ENCOD	ER	CYCLES	5 C	YCLES	25 C	YCLES	51	CYCLES 76		CURRENT		
CATE	RPM	OVERSP	EED FAU	LT TRI	PS	PROBL	EM	TO 25%		TO 509	6	TO 759	6	TO 110%	SE	RVICE DATE		
09/05/2011	0.00	0	0	0		38		10		2		7		9		26/04/2011		
10/05/2011	0.00	2	2	0		48		199		12		8		18		06/05/2011		
11/05/2011	0.00	2	2	0		48		216		12		8		18		06/05/2011		
12/05/2011	0.00	2	2	0		48		225		12		8		18	1	06/05/2011		

Below is a sample of the pre-formatted Excel Spreadsheet



Accessing the Data

Ethernet cable option

The CDR also has an option to download data by plugging a laptop into the cdr using a standard ethernet cable, then using internet explorer to login to the cdr using the ip address provided. Once logged in, the data can either be viewed or downloaded. The downloaded data is an sv file that can be opened using microsoft excel. No software needed-data can be viewed or down loaded by using an ethernet cable



Wi-fi option

This utilizes the wireless network on a laptop or other devices, such as smart phones and note book. This requires a wireless module and two external antennas to be fitted to the cdr. Using this system, the data can be viewed and download from the ground or anywhere in the wireless range. No software needed - data can be viewed or downloaded using wi-fi on laptop or other suitable devices



Remote access can be set up, provided there is internet access and reliable phone reception, data can be viewed and downloaded from any where in the world.

For any factory which has a number of cranes installed. It is possible to set up one central communication system in that factory to access the data for all cranes. This allows data to be accessed using the local wi-fi network and eliminates the cost of having a separate sim card for each crane. Central modem and wi-fi control panel located in factory can then be accessed remotely using an internet connection.

Specification

Listed below is a brief specification for the CDR unit. If you need further information, please contact your supplier or (Hydromech Pty. Ltd.)

- The enclosure is available in powder coated steel or in stainless steel both types of enclosure have an IP-55 or 65 rating depending on the application.
- All component used are industrial rated items only well known and reliable brands are used.
- Supply voltage: 400 to 440V AC 50Hz.
- Power consumption: 160W.
- Input: The input signals received from the crane motion contactors is fully isolated from the rest
 of extra low voltage used in the CDR. This eliminates noise interference that might affect the
 operation or the accuracy of the CDR
- No. of inputs: 8 on the processor unit
- (Up, Down, Fast, Travel, Traverse, Thermistor, Encoder Channel A, Encoder Channel B
- Inputs voltage: 240V. Using on board power supply
- No. of outputs: (Relay) 3 on the signal processor unit (Load at 90%, Load at 105%, Overload at 110%)
- No. of outputs: (Relay) 6 on the processor unit (Communication Fault Light 1, Communication Fault Light 2, Overload Fault Light 1, Overload Fault Light 2, Auto turn off after 30 minutes, Over-speed cut out (optional))
- Load cell interface: 4 wire
- Communication port A: RS232
- Communication port B: RS485
- Data access: Data can be viewed or it can be down loaded by.
 A) Plugging in a laptop via an Ethernet cable
 - B) Wirelessly using laptop wireless system
 - C) Remotely using the Internet
 - D) Emailed
- Down loaded time: Less than 30 second
- Input monitoring: Yes
- (if an input is not received from direction Contactors, the appropriate Fault Light will come on)
- Operation Temperature: -10C to +60C

h HYDROMECH

ACN 050 136 313 22A Fowler Road Dandenong Victoria 3175 Phone 03 9791 1322 Fax 03 9794 8066