KEMKRAFT ENGINEERING, INC.

INSTRUCTIONAL MANUAL

PFCS INTERFACE BOX
FOR ATLAS COPCO TORQUE TOOL
MODEL KEI-965

47650 CLIPPER DR. PLYMOUTH TWP., MI. 48170 (734) 414-6500

GENERAL DESCRIPTION

The KEMKRAFT Model KEI-965 PFCS Interface Box was developed to seamlessly send torque data from the Atlas Copco Torque System to PFCS.

INSTALLATION INSTRUCTIONS

1. The KEI-965 Interface Box mounts to a beam or a wall through 4 mounting holes.
2. Power is supplied through a hardwired electrical supply cord, which requires a standard 110V 3 prong, grounded outlet.
3. RS-232 PFCS communications is established with a communication cable (1965-4002) connected from the PFCS port on the bottom of the box through a 6-pin Amphenol connector and to PFCS through a 25-pin D-Shell connector.
4. RS-422 communications is established with a communication cable (1965-4005) connected from the Atlas Copco port on the bottom of the box through a 6-pin Amphenol connector and to the Atlas Copco through a 9-pin D-Shell connector.

KEI-965 DISPLAY

ACTT: INPUT WAIT
PFCS: IDLE XXX

INTERFACE MESSAGE DESCRIPTIONS

ACTT Message Line:

INPUT WAIT – Normal idle state message.

STORING DATA…. – This message is displayed while the data string from the Atlas Copco is being collected by the KEI-965

RECEIVED OK – The data string was successfully received from the Atlas Copco.

BUFFER FULL – This message is displayed if the KEI-965 has received too many data strings from the Atlas Copco before receiving any ACK's from PFCS.

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RQ TRQ L LO – Request Torque LOW Limit from Atlas Copco.

RQ TRQ L HI – Request Torque HI Limit from Atlas Copco.

RQ ANG L LO – Request Angle LOW Limit from Atlas Copco.

RQ ANG L HI – Request Angle HI Limit from Atlas Copco.

RQ BATCH SZ – Request BATCH size from Atlas Copco.

BAD CHECKSUM – Bad data string checksum from Atlas Copco.

ERR TIMEOUT – KEI-965 did not receive a complete data string from the Atlas Copco within the required time period.

ERR NO STX – The data string from the Atlas Copco was received without a start of text character.

ERR UNKNOWN – Unknown data from Atlas Copco.

PFCS Message Line:

IDLE XXX – Normal idle state counter, where XXX is idle time in Seconds.

PROCESSING – The data string from the Atlas Copco has been received and the packet for PFCS is being built.

SEND DATA – Uploading the data string packet to PFCS.

KEEP ALIVE - The box will send this message whenever the PFCS communications link has not been used for at least 2 minutes.

WAIT ACK - The box is waiting for a PFCS response.

ACK RECVD – The KEI-965 has received an ACK from PFCS.

NAK RECVD – The KEI-965 has received a NAK from PFCS.

ERR TIMEOUT – No response from PFCS.

ERR ACK/NAK – Bad response from PFCS.

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ERR MSG LEN – Message length of packet received by PFCS did not match the length that was sent.

ERR MCH ID – Machine ID from PFCS did not match the KEI-965.

CHRYSLER PFCS
TERMINAL SERVER ADAPTER
FOR KEI-965

TERMINAL SERVER	RJ45	1965-4002 PFCS SERIAL CABLE DB-25 MALE
CTS	1	5
DTR	2	6 & 8
TXD	3	3
DSR/DCD	4 & 7	20
RXD	5	2
GND	6	7
RTS	8	4

APPLICATION SOFTWARE: **19650_**
HARDWARE MODEL: **196504**

PFCS UPLOAD FORMAT

START POS.	END POS.	LENGTH	EXAMPLE DATA	DESCRIPTION
1	4	4	WA10	Machine ID
5	7	3	“ “	(Spaces) Ack/Nak Area
8	13	6	000007	Message Sequence Number
14	17	4	0002	Message Type
18	21	4	0184	Byte Count
22	25	4	0001	Number Of Records In Block
26	27	2	“ “	Filler (Spaces)
28	33	6	000000	VIN
34	39	6	000000	Track Seq. Number
40	51	12	021129134702	Date and Time
52	52	1	P	Overall Pass/Fail
53	53	1	P	Pass/Fail of First Measurement
54	55	2	01	Spindle number (01-x)
56	57	2	01	Bolt Count
58	58	1	P	Torque Status (Pass or Fail)
59	63	5	00029	Torque High Limit
64	68	5	00000	Torque Low Limit
69	73	5	00011	Torque Reading
74	74	1	P	Angle Status (Pass or Fail)
75	79	5	99999	Angle High Limit
80	84	5	00000	Angle Low Limit
85	89	5	01423	Angle Reading

Warranty

Kemkraft Engineering, Inc. warrants your product to be free from defects in material and workmanship for a period of 1 year from the original date of release. If you discover a defect in a product covered by this warranty, we will, at our option, repair or replace products which prove defective. This warranty is covered out of Kemkrafts' Plymouth, MI facility.

Warranty Exclusions

This warranty covers defects in manufacturing discovered while using the product as recommended by the manufacturer. The warranty does not cover loss or theft, nor does coverage extend to damage caused by misuse, abuse, unauthorized modification, improper storage conditions, lightening, natural disasters or damage caused by shipping. The warranty does not cover parts that are subject to normal wear and tear, such as batteries, adjustment screws and/or moveable parts.

Limits Of Liability

Should the product(s) fail, your sole recourse shall be repair or replacement, as described in the preceding paragraphs. We will not be held liable to you or any other party for any damages that result from the failure of this product. Damages excluded include, but are not limited to, the following: lost profits, lost savings, lost data, damage to other equipment, and incidental or consequential damages arising from the use, or inability to use this product. In no event will Kemkraft Engineering, Inc. be liable for more than the amount of your purchase price, not to exceed the current list price of the product, and excluding tax, shipping and handling charges.

Kemkraft Engineering, Inc. disclaims any other warranties, expressed or implied.
By installing or using the product, the user accepts all terms described herein.

How To Obtain Service Under This Warranty

Said equipment would either need to:

1. Be sent to Kemkraft Engineering, Inc. for evaluation and/or repair

   47650 Clipper Drive
   Plymouth, MI 48170
   PH: (734) 414-6500
   FAX: (734) 414-6599

2. If required, Kemkraft Engineering, Inc. would repair the equipment on site provided the end user pays all travel costs.

Requirements

The cost of shipping to the manufacturer or authorized repair center or payments of any customs clearance fees or duties are the responsibility of the user.