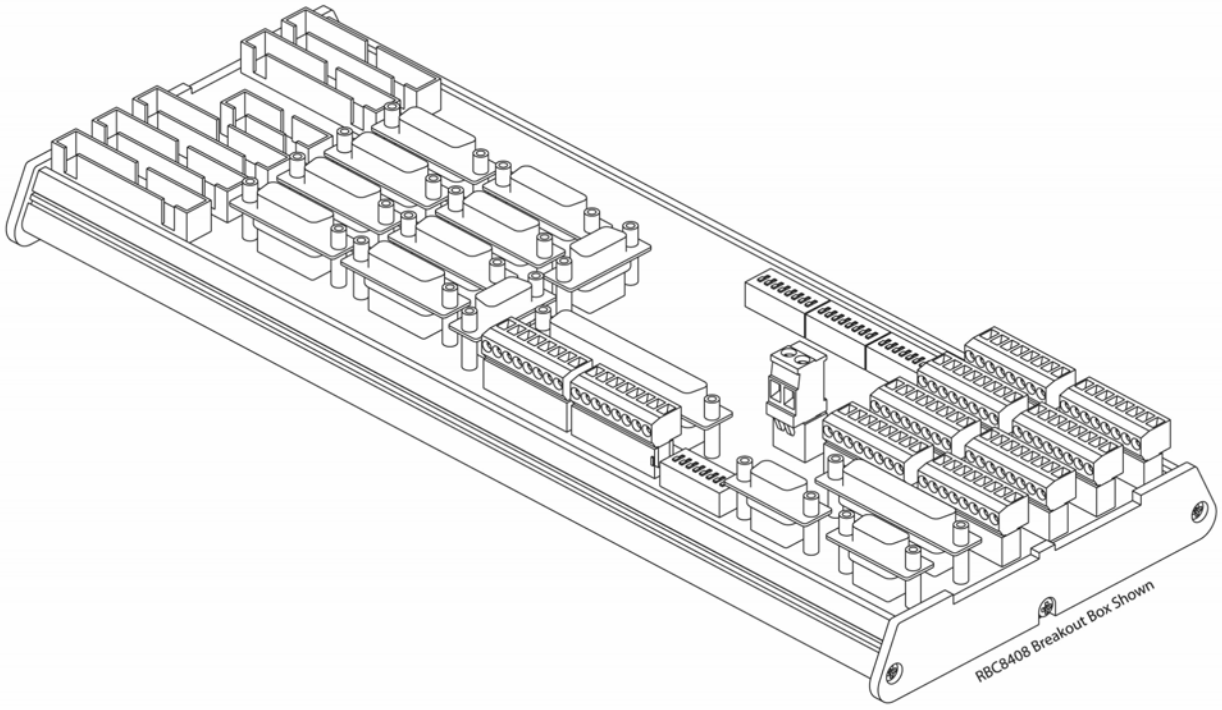
Automation

p/n 88-021131-01B

RBC84xx Breakout Box Hardware Installation Guide

Effective: September 2005



User Information

Warning — ACR Series products are used to control electrical and mechanical components of motion control systems. You should test your motion system for safety under all potential conditions. Failure to do so can result in damage to equipment and/or serious injury to personnel.

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Change Summary

Revision B Changes

Document 88-021131-01B supersedes document 88-021131-01A. Changes associated with RBC84xx revisions, and document clarifications and corrections are as follows:

Topic	Description
Electrical/Timing Characteristics (outputs)	Corrected the specifications for Turn on Time, On-Time Voltage Drop, and Load Current..
Compax 3 cable pinout	Corrected the pinout for connector C.
Aries cable pinout	Added the pinout for Aries drives.
VM26 Breakout Module	Added appendix describing the VM26 Breakout Module.

CHAPTER ONE

1 Introduction

IN THIS CHAPTER

About this Manual

This manual is designed to help you install the RBC84*xx* Breakout Box for use with a variety of Parker drives.

Assumptions of Technical Experience

To install and troubleshoot the RBC84*xx* Breakout Box, you should have a fundamental understanding of the following:

- Electronic concepts such as voltage, current, and switches.
- Mechanical motion control concepts such as inertia, torque, velocity, distance, and force.
- Serial communication (RS-232 or RS-422), depending on which communications protocol you are using.

Technical Support

For solutions to your questions about implementing the RBC84*xx* Breakout Box, first refer to this manual. If you cannot find the answer in this documentation, contact your local Automation Technology Center (ATC) or distributor for assistance.

If you need to talk to our in-house application engineers, please contact us at the numbers listed on page 1.

Checking Your Shipment

Confirm that you have received all items. If you are missing an item, call the factory (see Technical Assistance on page 1).

Note: If you are making or purchasing custom length cables, do not exceed a 10-foot length. Otherwise, you might encounter signal degradation.

RBC8404 (ACR8010, ACR8020)	
Part Name	**Part Number**
HP1A Ribbon Cable	71-021137-xx
HP1C Ribbon Cable	71-021139-xx
HP2 DB–37 pin 2 row	71-021134-xx
HP3 Ribbon Cable	71-021137-xx
HP4 Ribbon Cable	71-021137-xx
HP5 Ribbon Cable	71-021137-xx
In the part number xx represents 03 or 06 depending on the cable length ordered.	

Table 1: Ship kit for RBC8404

RBC8408 (ACR8010, ACR8020)	
Part Name	**Part Number**
HP1A Ribbon Cable	71-021137-xx
HP1B Ribbon Cable	71-021137-xx
HP1C Ribbon Cable	71-021139-xx
HP2 DB–37 pin 2 row	71-021134-xx
HP3 Ribbon Cable	71-021137-xx
HP4 Ribbon Cable	71-021137-xx
HP5 Ribbon Cable	71-021137-xx
In the part number xx represents 03 or 06 depending on the cable length ordered.	

Table 2: Ship kit for RBC8408

RBC8434 (ACR2000)	
Part Name	**Part Number**
HP1A Ribbon Cable	71-021137-xx
HP2 DB–44 pin 3 row	71-021133-xx
HP3/4 Split Ribbon Cable	71-021138-xx
HP5 Ribbon Cable	71-021137-xx
In the part number xx represents 03 or 06 depending on the cable length ordered.	

Table 3: Ship kit for RBC8434

CHAPTER TWO

2 Installation

IN THIS CHAPTER	
• Breakout Box Electrical Connections	10
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Before You Begin

The RBC84*xx* Breakout Box connects an ACR Controller Card to your system's electrical and mechanical components. Be sure to test your system for safety under all potential conditions. Failure to do so can result in damage to equipment and serious injury to personnel.

Electrical Noise Guidelines

- Ensure that all components are properly grounded.
- Ensure that all wiring is properly shielded.

Breakout Box Connection

Once you have installed the ACR Controller Card in your computer, you can then connect the controller to the breakout box.

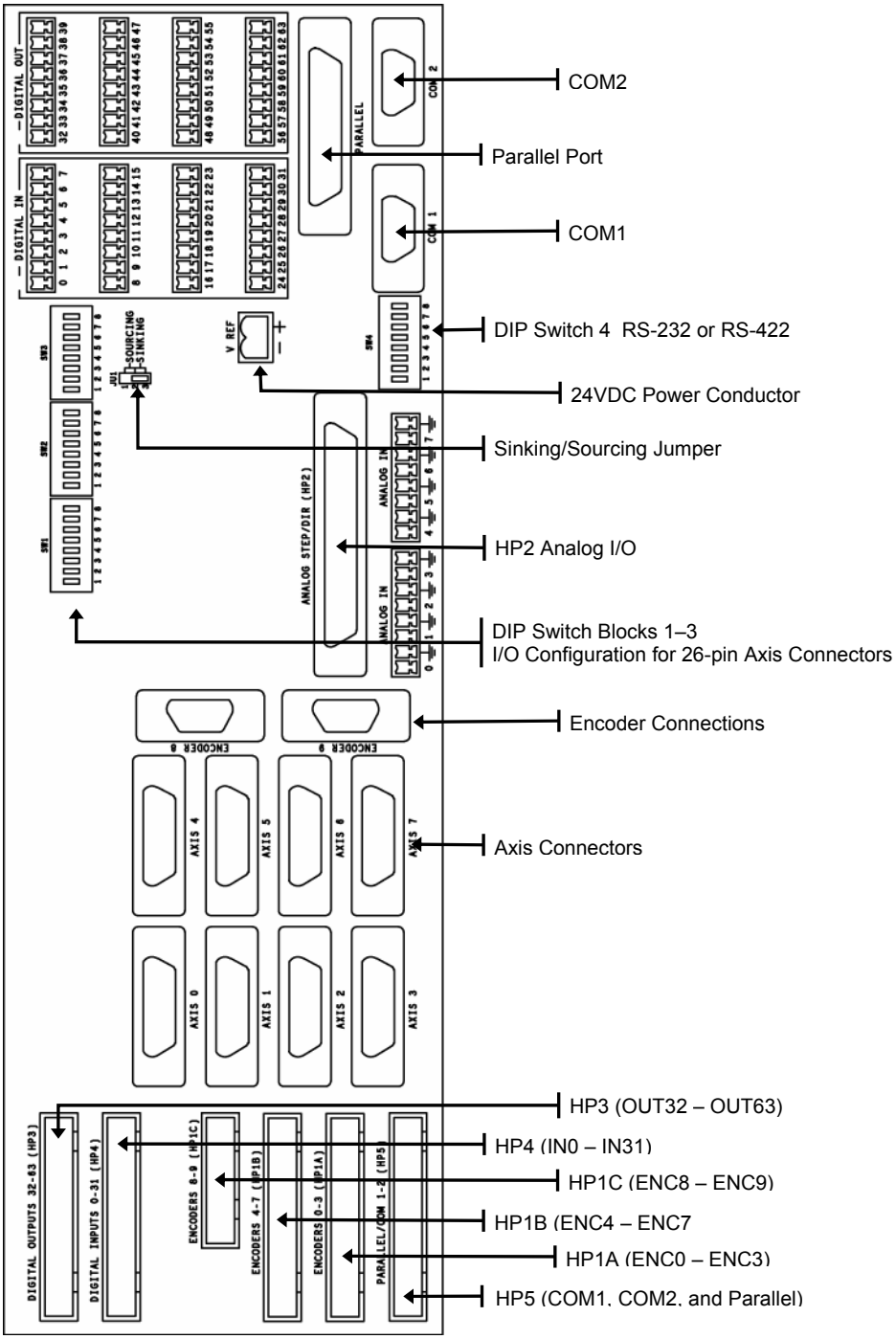


Figure 1: Breakout Box Connections

ACR 34-Pin Ribbon Cables

For ACR80xx series controller cards there are four 34-pin ribbon cables supplied (HP1A, HP3, HP4, and HP5) for the RBC8404, and five 34-pin ribbon cables supplied (HP1A, HP1B, HP3, HP4, and HP5) for the RBC8408. In addition there is one 20-pin ribbon cable (HP1C), and one cable with DB-37 pin connectors at each end (HP2).

The configuration of your controller card determines which cables to use with the breakout box. Figure 2 shows a typical 34-pin ribbon cable.

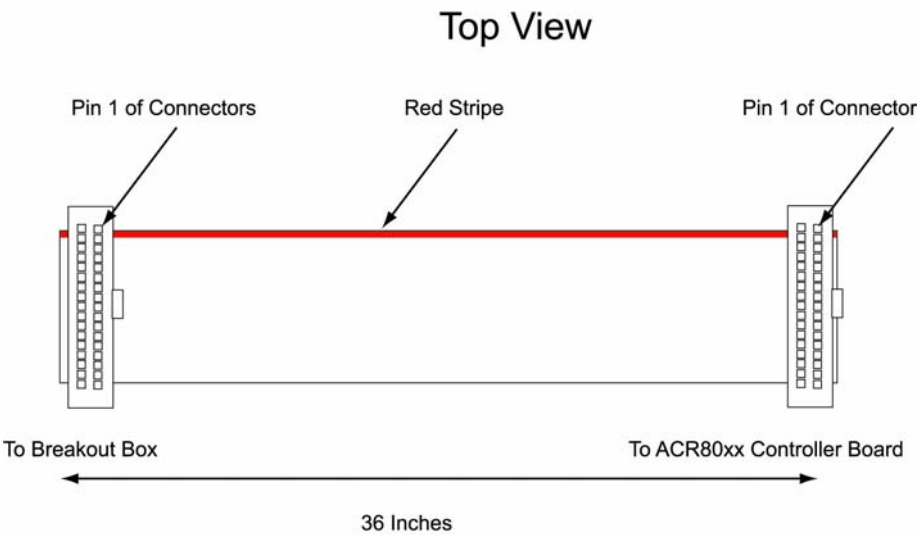


Figure 2: Typical 34-Pin Breakout Box Ribbon Cable

For the ACR2000 series controller cards there are two 34-pin ribbon cables (HP1A and HP5), one 34-pin split ribbon cable (HP3/HP4), and one cable with a DB-37 pin connector at one end and a DB-44 pin connector at the other end (HP2). Figure 3 shows a typical 34-pin split-ribbon cable for ACR2000 Digital I/O connections.

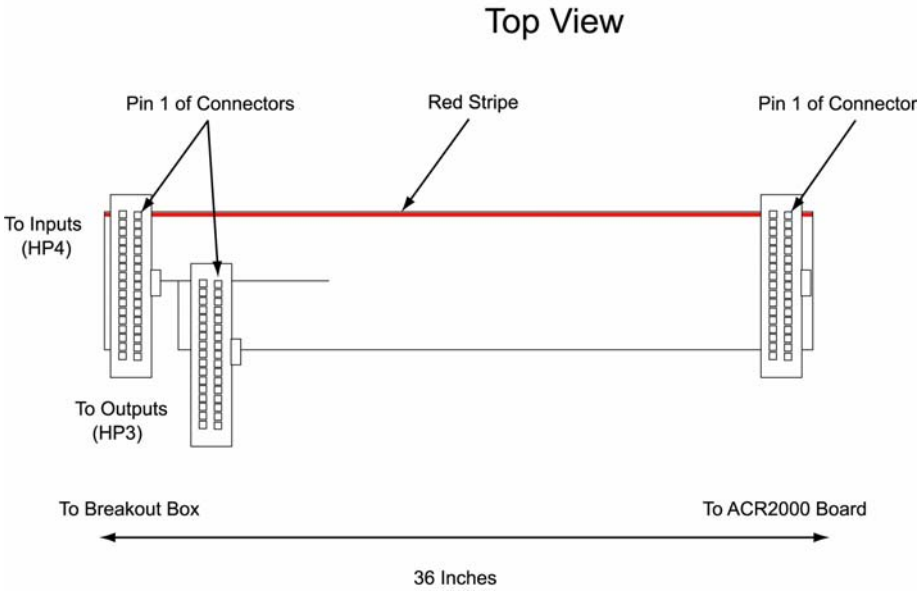


Figure 3: Typical ACR2000 34-Pin Split Digital I/O Ribbon Cable

Encoder Input Cables

There are two 34-pin headers and one 20-pin header provided on the RBC84*xx* Breakout Box that supply encoder feedback signals to an ACR Controller Card. The two 34-pin headers provide up to eight axes of encoder feedback (encoders 0–7). The 20-pin header provides two axes of encoder feedback (encoders 8 and 9). For the location of ribbon connection cables, see Figure 1.

The Encoder Input cables supply current through the DB-26 pin Axis connectors and the DB-9 Encoder connectors. The configuration of your ACR Controller Card determines how much current you can supply.

No. of Encoders	HP1A	HP1B	HP1C	Available Current
4	Connected	—	—	400 mA
5	Connected	—	Connected	500 mA
9	Connected	Connected	—	800 mA
10	Connected	Connected	Connected	1000 mA

Connections are as follows:

ACR8010 or ACR8020

Encoders 0–3 HP1A (Breakout Box) to P1A (ACR Controller Card)

Encoders 4–7 HP1B (Breakout Box) to P1B (ACR Controller Card)

Encoders 8–9 HP1C (Breakout Box) to P1C (ACR Controller Card)

ACR2000

Encoders 0–3 HP1A (Breakout Box) to P1 (ACR Controller Card)

Digital I/O Cables

There are two 34-pin headers provided on the RBC84*xx* Breakout Box to interface Digital I/O signals to an ACR Controller Card. The 32 Digital Inputs and 32 Digital Outputs use the 34-pin headers.

Connections are as follows:

ACR8010 or ACR8020

- Digital Outputs 32–63 HP3 (Breakout Box) to P3 (ACR Controller Card)
- Inputs 0–31 HP4 (Breakout Box) to P4 (ACR Controller Card)

ACR2000

- Digital Outputs 32–47 HP3 (Breakout Box) to P3 (ACR Controller Card)
- Inputs 0–15 HP4 (Breakout Box) to P3 (ACR Controller Card)

Note: The ACR2000 uses a split-ribbon cable. See Figure 3.

Communication Cable

There is one 34-pin header provided on the RBC84*xx* Breakout Box for the two serial and one parallel communications ports to interface to an ACR COM Card. For connector locations, see Figure 1.

Connections are as follows:

ACR2000, ACR8000, ACR8010, or ACR8020 COM Board

- Parallel/Com 1–2 HP5 (Breakout Box) to P5 (ACRCOM Card)

Power Connection

The power Connector requires 24VDC (±2VDC). Always make the power connection using the same source as your ACR Controller.

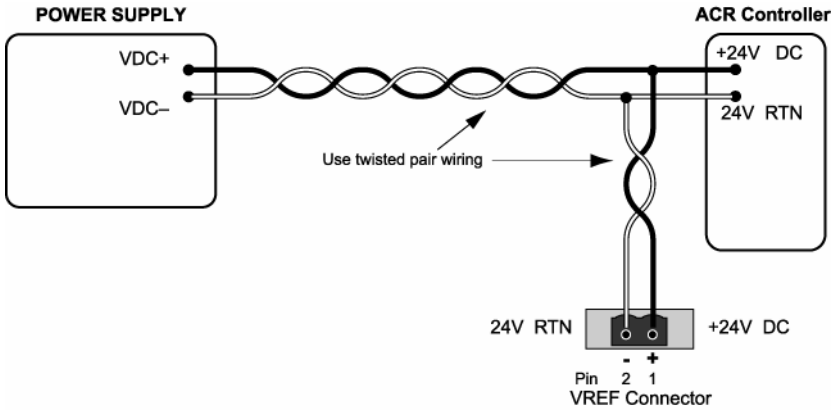


Figure 4: Power Connection

Sinking or Sourcing Configuration

You must configure your ACR Breakout Box to match your ACR Controller sinking or sourcing inputs. The factory default is set for sinking inputs. For jumper location, see Figure 1.

- **Sinking**: Place the jumper across headers 2 and 3.
- **Sourcing**: Place the jumper across headers 1 and 2.

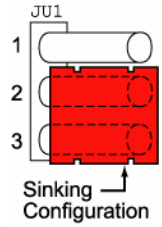


Figure 5: JU1 Jumper

ACR Controller Card	ACR Sink/Source	ACR Jumper & Pin No.	ACR Breakout Box Jumper Pin No.
8010	Sink	JP33/34 pins 1-2	2-3
	Source	JP33/34 pins 2-3	1-2
8020	Sink	JP17/18 pins 1-2	2-3
	Source	JP17/18 pins 2-3	1-2
2000	Sink	J5 pins 1-2	2-3
	Source	J5 pins 2-3	1-2

Table 4: Sinking or sourcing Configuration

Breakout Box to User Interconnect

COM1/COM2 Serial Port Connector Pinouts

There are two standard DB-9 male connectors provided on the RBC84*xx* Breakout Box to interface with serial communication ports. For connector locations, see Figure 1.

Note: The serial and parallel ports requires an ACRCOM Card.

COM 1 Serial Port Connector		
RS-232 Signal	**RS-422 Signal**	**Pin**
n/c	RXD1A	1
RXD1	n/c	2
TXD1	n/c	3
n/c	TXD1A	4
DGND	DGND	5
DGND	DGND	6
n/c	RXD1B	7
n/c	TXD1B	8
n/c	n/c	9
Note: Use a standard Null Modem cable for COM connections.		

Table 5: COM1 Serial Port Connector

COM 2 Serial Port Connector		
RS-232 Signal	**RS-422 Signal**	**Pin**
n/c	RXD2A	1
RXD2	n/c	2
TXD2	n/c	3
n/c	TXD2A	4
DGND	DGND	5
DGND	DGND	6
n/c	RXD2B	7
n/c	TXD2B	8
n/c	n/c	9
Note: Use a standard Null Modem cable for COM connections.		

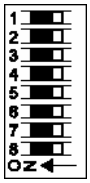
Table 6: COM2 Serial Port Connector

Configuration for RS-232 or RS-422 Communication

Using the SW4 DIP switch, you can configure the breakout box for the RS-232 or RS-422 communications protocol.

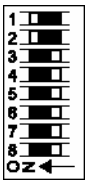
RS-232

The default configuration is for RS-232. Make sure all pins on the SW4 DIP switch are set to the OFF position.



RS-422

To use the RS-422 communication protocol, move pins 1 and 2 to the ON position. All other pins remain in the OFF position.



Parallel Port Connector

There is one standard DB–25 female connector provided to interface to a parallel communication port. For connector locations, see Figure 1.

Important!

To use the serial and parallel ports requires an ACRCOM Card.

Signal	Pin	Signal	Pin
STROBE	1	AUTO FEED	14
DATA0	2	ERROR	15
DATA1	3	INIT	16
DATA2	4	SEL IN	17
DATA3	5	DGND	18
DATA4	6	DGND	19
DATA5	7	DGND	20
DATA6	8	DGND	21
DATA7	9	DGND	22
ACK	10	DGND	23
BUSY	11	DGND	24
PAPER OUT	12	DGND	25
SEL OUT	13		

Table 7: Parallel Port Connector

Drive Enable and Drive Reset

Configuration

The ACR Controller general-purpose outputs (32-47) are always sent to the Digital Out screw terminals. However, you can also send the signals through the Axis connectors.

The DIP switches SW1 and SW2 let you independently enable or disable each Drive Enable and Drive Reset signal on each Axis connector. The factory default for all Axis connectors is ON. For switch locations, see Figure 1. For Axis connector pinouts, see Table 13.

Note: Use the SET command to enable the appropriate outputs for each axis.

DIP Switch SW1

Pin	Axis	Signal	Digital Out
1	0	Drive Enable*	32
2	0	Drive Reset	33
3	1	Drive Enable	34
4	1	Drive Reset	35
5	2	Drive Enable	36
6	2	Drive Reset	37
7	3	Drive Enable	38
8	3	Drive Reset	39

* The Drive Enable signal is also known as the Drive Shutdown signal for steppers.

Table 8: DIP Switch SW1

DIP Switch SW2*

Pin	Axis	Signal	Digital Out
1	4	Drive Enable†	40
2	4	Drive Reset	41
3	5	Drive Enable	42
4	5	Drive Reset	43
5	6	Drive Enable	44
6	6	Drive Reset	45
7	7	Drive Enable	46
8	7	Drive Reset	47

* DIP switch SW2 does not exist in the four-axis version of the breakout box.

† The Drive Enable signal is also known as the Drive Shutdown signal for steppers.

Table 9: DIP Switch SW2

Electrical/Timing Characteristics (outputs – enable, reset)

The output is not polarity sensitive, and can be controlled regardless of polarity.

The Drive Enable/Reset outputs are optically isolated outputs. Both the drain and source are available on separate connector pins to allow significant flexibility in wiring to different styles of interface.

Note: To supply power to the Drive Enable/Reset feature, you must connect the HP2 cable and at least one HP1 cable.

Important!

These characteristics only apply to the Axis Connectors.

Description	Min	Typical	Max	Units
Turn on time	—	—	2	mS
Turn off time	—	—	1	mS
Working Voltage	–30	—	30	VDC
On-time voltage drop ($I_L \leq 10$ mA)	—	—	0.4	VDC
On-time voltage drop (10 mA < $I_L \leq 100$ mA)	—	—	4.0	VDC
Load Current ($T_A \leq 35°C$)	—	—	100	mA
Load Current (35°C < $T_A \leq 50°C$)			80	mA
Trip Current	—	200	—	mA
Note: All parameters are at the connector pin.				

Table 10: Electrical/Timing Characteristics (outputs–enable, reset)

Output Circuit Schematic

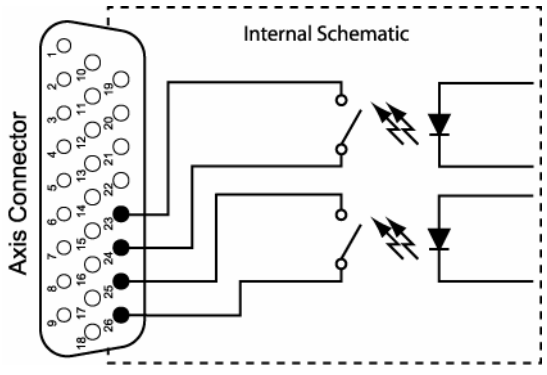


Figure 6. Equivalent circuit for outputs

Drive Faults

Configuration

The ACR Controller general-purpose inputs (0-7) signals are always sent to the Digital In screw terminals. However, you can also send the signals through the Axis connectors.

The DIP switch SW3 lets you independently enable or disable each Drive Fault signal on each Axis connector. The factory default for all Axis connectors is ON. For switch locations, see Figure 1. For Axis connector pinouts, see Table 13.

Note: Use the `BIT` command to read the appropriate input for each axis.

Note: If you are using the Axis connectors for the Drive Fault signal, do not connect to the comparable screw terminal.

DIP Switch SW3

Pin	Axis	Signal	Digital In
1	0	Drive Fault	0
2	1	Drive Fault	1
3	2	Drive Fault	2
4	3	Drive Fault	3
5	4	Drive Fault	4
6	5	Drive Fault	5
7	6	Drive Fault	6
8	7	Drive Fault	7

Table 11: DIP Switch SW3

Electrical/Timing Characteristics (inputs – fault)

Drive fault input is an optically isolated input. Current is limited for input voltage control of 5 to 24 volt logic. Both the Anode (+) and Cathode (–) are available on separate connector pins to allow significant flexibility in wiring to different styles of interface.

Note: These characteristics only apply to the Axis Connectors.

Description	Min	Max	Units
Turn on time	–	1	mS
Turn off time	–	1	mS
Guaranteed on voltage	4	–	VDC
Guaranteed off voltage	–	2	VDC
Maximum forward voltage	–	30	VDC
Maximum reverse voltage	-30	–	VDC
Forward current	3	12	mA
Note: All parameters are at the connector pin.			

Table 12: Electrical/Timing characteristics (inputs–fault)

Input Circuit Schematic

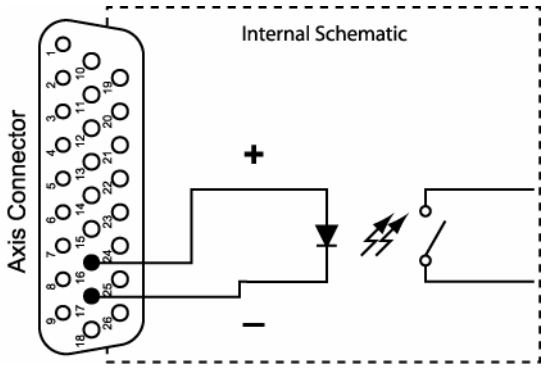


Figure 7. Equivalent circuit for inputs

Axis Connectors

Depending on your configuration, there are either four or eight DB-26 female connectors to interface with drives. For connector locations, see Figure 1.

The RBC84*xx* Breakout Box does not provide a dedicated Drive Stall input on the Axis connector. This feature is exclusive to the Parker Gemini GT Drive. To use this feature:

- On the ACR Controller Card, configure the inputs as sourcing (with reference to the controller card. Please note that in the ACR Controller manual references the device to which you are connecting, not the controller itself.
- Break out the connection from the Gemini GT Drive connector and bring it through a Digital Input screw terminal on the breakout box.

Axis Connector Pinout

Signal	Pin	Signal	Pin
+5VDC	1	ASIG (STEP) ‡	14
DGND	2	AGND (DIR) ‡	15
ENC A+	3	DRV FAULT IN+	16
ENC A–	4	DRV FAULT IN–	17
ENC B+	5	+5VDC	18
ENC B–	6	DGND	19
ENC Z+	7	DRV ENABLE OUT – *	20
ENC Z–	8	DRV ENABLE OUT+ *	21
+5VDC	9	DRV RESET OUT–	22
+5VDC †	10	DRV RESET OUT+	23
ASIG (STEP) †	11	DGND	24
+5VDC †	12	Reserved	25
AGND (DIR) †	13	Reserved	26

† Stepper Drives use pins 10 –13.
‡ Servo Drives use pins 14 & 15.
* The Drive Enable signal is also known as the Drive Shutdown signal for steppers.

Note: Pins 11 & 14 are shorted together, as are pins 13 & 15, in the ACR Breakout Box. Connect only to pins 10 – 13, or pins 14 & 15; Do not connect to both.

Table 13: Axis Connector Pinout

Encoder Connectors

Depending on your configuration, there are either one or two DB–9 female connectors provided to interface with two auxiliary encoders. For connector locations, see Figure 1.

Signal	Pin
+5VDC	1
DGND	2
ENC A+	3
ENC A–	4
n/c	5
ENC B+	6
ENC B–	7
ENC Z+	8
ENC Z–	9

Table 14: Encoder Connector Pinout

Drive Connections

Connections for Dynaserv G2 Drives

The following required pinout is for the Dynaserv drive's CN4 connector.

Part number 71-021107-xx

Note: A box surrounding pins indicates a requirement for twisted pair wiring.

Breakout Box		Wire Color	Dynaserv
Signal	**Pin**		**Pin**
+5VDC	1	Wht-Blu	1
ENC A+	3	Black	9
ENC A–	4	Red	10
ENC B+	5	Green	11
ENC B–	6	White	12
ENC Z+	7	Yellow	13
ENC Z–	8	Orange	14
+5VDC	10	Blue	15
ASIG (STEP)	11	Violet	16
+5VDC	12	Gray	17
AGND (DIR)	13	Brown	18
DRV FAULT IN–	17	Tan	4
DGND	19	Pink	2
DRV ENABLE OUT+	21	Blu-Wht	20
DRV RESET OUT+	23	Black	19

Note: In the Breakout Box connector, pins 16 & 9, 2 & 20, and 22 & 24 are jumpered.

Table 15: Connection to Dynaserv Pinout

Connections for Compax3 Drives

The following required pinout is for the Compax3 drive connectors.

Part number 71-021108-xx

Note: A box surrounding pins indicates a requirement for twisted pair wiring.

Breakout Box		Wire Color	Compax3 X11	Compax3 X12
Signal	**Pin**		**Pin**	**Pin**
ENC A+	3	Black	7	—
ENC A–	4	Red	6	—
ENC B+	5	Green	8	—
ENC B–	6	White	12	—
ENC Z+	7	Yellow	14	—
ENC Z–	8	Orange	13	—
ASIG (STEP)	14	Blue	9	—
AGND (DIR)	15	Violet	11	—
DRV FAULT IN+	16	Gray	—	2
DRV ENABLE OUT–	20	Brown	—	6 & 8
DRV ENABLE OUT+	21	Blue	—	1, 7, & 11 jumper
DGND	24	Violet	—	15

Note: In the ACR Breakout Box connector, pins 17 & 19 are jumpered.
In the Compax3 X12 connector, pins 1 & 11 are jumpered.

Table 16: Connection to Compax3 Pinout

Connections for SBC Drives

The following required pinout is for the SVLD drive's X3 connector, and the HPD drive's X7 connector.

Part number 71-021109-xx

Note: A box surrounding pins indicates a requirement for twisted pair wiring.

Breakout Box		Wire Color	SBC
Signal	**Pin**		**Pin**
DGND	2	Tan	Flying/ x1 pin 7
ENC A+	3	Black	1
ENC A–	4	Red	2
ENC B+	5	Green	3
ENC B–	6	White	4
ENC Z+	7	Yellow	5
ENC Z–	8	Orange	6
ASIG (STEP)	14	Blue	Flying/ x4 pin 1
AGND (DIR)	15	Violet	Flying/ x4 pin 2
DRV FAULT IN+	16	Pink	Flying/ x4 pin 7
DRV FAULT IN–	17	Gray	Flying/ x4 pin 3
DRV ENABLE OUT–	20	Brown	Flying/ x4 pin 9
DRV ENABLE OUT+	21	Blu-Wht	Flying/ x4 pin 9

Table 17: Connection to SBC Pinout

Connections for ViX Drives

The following required pinout is for the Vix drive's X4 connector.

Part number 71-021110-xx

Note: A box surrounding pins indicates a requirement for twisted pair wiring.

Breakout Box		Wire Color	Vix
Signal	**Pin**		**Pin**
DGND	2	Tan	3
ENC A+	3	Black	14
ENC A–	4	Red	9
ENC B+	5	Green	15
ENC B–	6	White	10
ENC Z+	7	Yellow	5
ENC Z–	8	Orange	4
ASIG (STEP)	14	Blue	1
AGND (DIR)	15	Violet	2
DRV FAULT IN–	17	Gray	6
DRV ENABLE OUT+	21	Brown	11

Note: In the Breakout Box connector, pins 9 & 16, and 20 & 24 are jumpered.

Table 18: Connection to Vix Pinout

Connections for Gemini Stepper Drives

The following required pinout is for the Gemini drive's 50-pin Drive I/O connector.

Part number 71-021111-xx

Note: A box surrounding pins indicates a requirement for twisted pair wiring.

Breakout Box		Wire Color	Stepper
Signal	**Pin**		**Pin**
DGND	2	Tan	7
ASIG (STEP)	11		8
ENC A+	3	Black	14
ENC A–	4	Red	15
ENC B+	5	Green	16
ENC B–	6	White	17
ENC Z+	7	Yellow	18
ENC Z–	8	Orange	19
AGND (DIR)	13	Violet	10
DRV FAULT IN–	17	Blue	43
DRV ENABLE OUT+	21	Gray	1
DRV ENABLE OUT–	20	Brown	2
DRV RESET OUT+	23	Blu-Wht	3
DRV RESET OUT–	22	Wht-Blu	6
Note: In the Breakout Box connector, pins 16 & 18 are jumpered.			

Table 19: Connection to Gemini Stepper Pinout

Connections for Gemini Servo Drives

The following required pinout is for the Gemini drive's 50-pin Drive I/O connector.

Part number 71-021112-xx

Note: A box surrounding pins indicates a requirement for twisted pair wiring.

Breakout Box		Wire Color	Servo
Signal	**Pin**		**Pin**
DGND	2	Tan	7
ENC A+	3	Black	14
ENC A–	4	Red	15
ENC B+	5	Green	16
ENC B–	6	White	17
ENC Z+	7	Yellow	18
ENC Z–	8	Orange	19
ASIG (STEP)	14	Blue	23
AGND (DIR)	15	Pink	24
DRV FAULT IN–	17	Violet	43
DRV ENABLE OUT+	21	Brown	1
DRV ENABLE OUT–	20	Gray	2
DRV RESET OUT+	23	Blu-Wht	3
DRV RESET OUT–	22	Wht-Blu	6
Note: In the Breakout Box connector, pins 16 & 18 are jumpered.			

Table 20: Connection to Gemini Servo Pinout

Connections for Compumotor Stepper Drives

The following pinout is for all Compumotor stepper drive Indexer connectors.

Note: A box surrounding pins indicates a requirement for twisted pair wiring.

Breakout Box		Wire Color	Stepper
Signal	**Pin**		**Pin**
+5VDC	9	Orange	9
+5VDC	10	Black	1
ASIG (STEP)	11	Red	14
+5VDC	12	Green	2
AGND (DIR)	13	White	15
DRV FAULT IN+	16	Yellow	21
DGND	19	Blue	17
DRV SHUTDOWN OUT– *	20	Violet	16
DGND	24	Gray	23
DRV RESET OUT–	22	Brown	11

* The Drive Enable signal is also known as the Drive Shutdown signal for steppers.

Note: In the Breakout Box connector, pins 17 & 19, 18 & 21, and 1 & 23 are jumpered.

Table 21: Connection to Parker Hannifin Stepper Pinout

Connections for Aries Servo Drives

The following required pinout is for the Aries Drive I/O connectors.

Part number 71-0021599-xx

Note: A box surrounding pins indicates a requirement for twisted pair wiring.

Breakout Box		Wire Color	Aries
Signal	**Pin**		**Pin**
+5VDC	1	Black	1
DRV ENABLE OUT+	21	White	21
DGND	2	Red	2
DGND	19	Blu-Wht	19
ENC A+	3	Green	3
ENC A-	4	White	4
ENC B+	5	Yellow	5
ENC B-	6	Orange	6
ENC Z+	7	Blue	7
ENC Z-	8	Violet	8
ASIG (STEP)	14	Gray	14
AGND (DIR)	15	Brown	15
DRV FALUT IN-	17	Blue	9
+5VDC	18	Orange	18
DRV RESET OUT+	23	Green	23
DRV ENABLE OUT-	20	Black	20
DRV RESET OUT-	22	Red	22

Note: The combination of an ACR8020 and Aries drive is not recommended for Step and Direction.

Table 22: Connection to Aries Pinout

CHAPTER THREE

3 Specifications

IN THIS CHAPTER

Breakout Box Dimensions

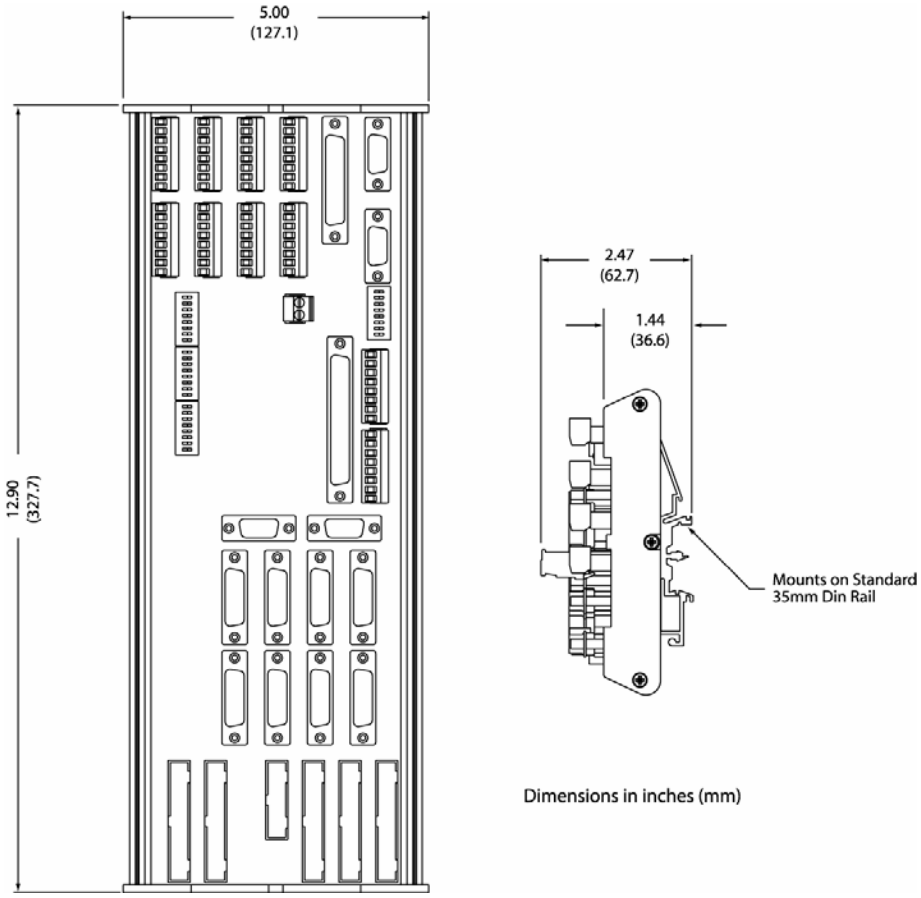


Figure 8: Breakout Box Dimensions

Environmental Specifications

Operating Temperature..... 0C to 50C

Storage Temperature..... 70C to -50C

Humidity ..... 0 to 95% non-condensing.

APPENDIX A

VM26 Expansion Module

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Overview

The VM26 expansion module provides screw-terminal connections for the Drive I/O connectors on the Aries drive. The VM26 comes with a 2-foot cable (609.6 mm) that provides easy connection between the VM26 module and the drive's 26-pin I/O connectors. The VM26 expansion module is ordered separately (part number "VM26-PM").

Notes

- The VM26 module ships with DIN-rail mounting clips installed.
- The overall cabinet depth with cable-bend radius is 5 inches (127 mm).

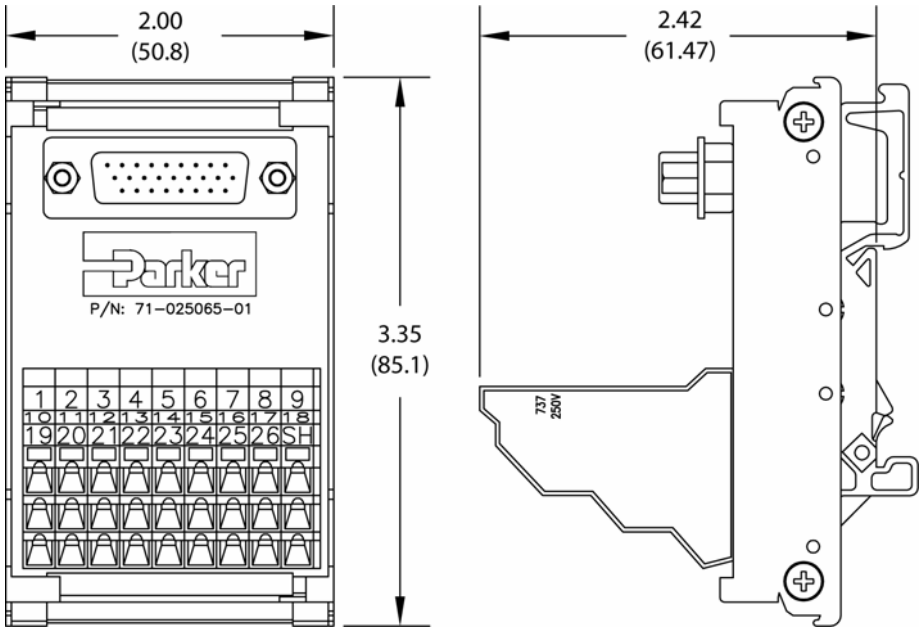

Figure 9 VM26 Breakout Module

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