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| | | | | | | | |
|-------------|------------------------|--------|-----------|--------|--------------------------------|-------------|----------|
| Phone # | 1-800-245-3539 | Part # | FCBB-K6K3 | Title: | KINETIX 6000 BREAKOUT BOARD | Drawing No. | A8452-01 |
| Department: | AUTOMATION ELECTRONICS | | | | | | |

FLEX-CABLE
 5822 N. Henkel Rd.
 Howard City, MI 49329

PIN NUMBERS & SIGNAL DESCRIPTIONS
for the FCBB-K6K-3 Break-Out Board. Valid for KINETIX 6000™ drives.

NOTE: Terminal blocks are labeled according to connector pin numbers.

| <u>IOD</u> | | | <u>I/O CONNECTOR PIN-OUT</u> | | | <u>MF</u> | | | <u>STEGMANN HIPERFACE PIN-OUT</u> | | |
|------------|---|----------|------------------------------|---|----------|------------|---|----------|-----------------------------------|----------------------------------|-------------|
| Pin Number | Terminal Signal Description | Signal | Pin Number | Terminal Signal Description | Signal | Pin Number | Terminal Signal Description | Signal | Pin Number | Terminal Signal Description | Signal |
| 1 | Hardware Enabled 24V DC Power Supply | CUST_24V | 1 | Sine Differential Input+ | SINE+ | 1 | Sine Differential Input+ | SINE+ | 1 | AM+ / Sine Differential Input+ | AM+ / SINE+ |
| 2 | Hardware Enable Input | ENABLE | 2 | Sine Differential Input- | SINE- | 2 | Sine Differential Input- | SINE- | 2 | AM- / Sine Differential Input- | AM- / SINE- |
| 3 | Common | CUST_COM | 3 | Cosine Differential Input+ | COS+ | 3 | Cosine Differential Input+ | COS+ | 3 | BM+ / Cosine Differential Input+ | BM+ / COS+ |
| 4 | Home Switch 24V DC Power Supply | CUST_24V | 4 | Cosine Differential Input- | COS- | 4 | Cosine Differential Input- | COS- | 4 | BM- / Cosine Differential Input- | BM- / COS- |
| 5 | Home Switch Input | HOME | 5 | Hiperface data channel | DATA+ | 5 | Resolver Excitation | R1 | 5 | Index Pulse+ | I+ |
| 6 | Common | CUST_COM | 6 | Common | ECOMM | 6 | Common | ECOMM | 6 | Common | ECOMM |
| 7 | Positive Overtravel 24V DC Power Supply | CUST_24V | 7 | Encoder Power (+9V) | EPWR_9VM | 7 | Encoder Power (+9V) | EPWR_9VM | 7 | Encoder Power (+9V) | EPWR_9VM |
| 8 | Positive Overtravel Limit Switch Input | OT+ | 8 | Reserved | ---- | 8 | Reserved | ---- | 8 | Reserved | ---- |
| 9 | Common | CUST_COM | 9 | Reserved | ---- | 9 | Reserved | ---- | 9 | Reserved | ---- |
| 10 | Negative Overtravel 24V DC Power Supply | CUST_24V | 10 | Hiperface data channel | DATA- | 10 | Resolver Excitation | R2 | 10 | Index Pulse- | I- |
| 11 | Negative Overtravel Limit Switch Input | OT- | 11 | Motor Thermal Switch (normally closed) ¹ | TS | 11 | Motor Thermal Switch (normally closed) ¹ | TS | 11 | Reserved | ---- |
| 12 | Common | CUST_COM | 12 | Reserved | ---- | 12 | Reserved | ---- | 12 | Reserved | ---- |
| 13 | 24V Registration Power | REG_24V | 13 | Reserved | ---- | 13 | Reserved | ---- | 13 | Reserved | ---- |
| 14 | High Speed Registration 1 Input | REG1 | 14 | Encoder Power (+5V) | EPWR_5VM | 14 | Encoder Power (+5V) | EPWR_5VM | 14 | Encoder Power (+5V) | EPWR_5VM |
| 15 | Common for Registration | REG_COM | 15 | Reserved | ---- | 15 | Reserved | ---- | 15 | Reserved | ---- |
| 16 | 24V Registration Power | REG_24V | | | | | | | | | |
| 17 | High Speed Registration 2 Input | REG2 | | | | | | | | | |
| 18 | Common for Registration | REG_COM | | | | | | | | | |
| 19 | Reserved | ---- | | | | | | | | | |
| 20 | Reserved | ---- | | | | | | | | | |
| 21 | Reserved | ---- | | | | | | | | | |
| 22 | Reserved | ---- | | | | | | | | | |
| 23 | Analog Output 0 | DAC0 | | | | | | | | | |
| 24 | Analog Output Common | AC_COM | | | | | | | | | |
| 25 | Analog Output 1 | DAC1 | | | | | | | | | |
| 26 | Analog Output Common | DAC_COM | | | | | | | | | |

| <u>MF</u> | | | <u>TTL or Sine/Cosine w/Index Pulse and Hall Commutation</u> | | | <u>MF</u> | | | <u>Resolver Transmitter TR = 0.25</u> | | |
|------------|---|-------------|--|---|-------------|------------|---|----------|---------------------------------------|---|----------|
| Pin Number | Terminal Signal Description | Signal | Pin Number | Terminal Signal Description | Signal | Pin Number | Terminal Signal Description | Signal | Pin Number | Terminal Signal Description | Signal |
| 1 | AM+ / Sine Differential Input+ | AM+ / SINE+ | 1 | AM+ / Sine Differential Input+ | AM+ / SINE+ | 1 | Sine Differential Input+ | SINE+ | 1 | Sine Differential Input+ | SINE+ |
| 2 | AM- / Sine Differential Input- | AM- / SINE- | 2 | AM- / Sine Differential Input- | AM- / SINE- | 2 | Sine Differential Input- | SINE- | 2 | Sine Differential Input- | SINE- |
| 3 | BM+ / Cosine Differential Input+ | BM+ / COS+ | 3 | BM+ / Cosine Differential Input+ | BM+ / COS+ | 3 | Cosine Differential Input+ | COS+ | 3 | Cosine Differential Input+ | COS+ |
| 4 | BM- / Cosine Differential Input- | BM- / COS- | 4 | BM- / Cosine Differential Input- | BM- / COS- | 4 | Cosine Differential Input- | COS- | 4 | Cosine Differential Input- | COS- |
| 5 | Index Pulse+ | I+ | 5 | Index Pulse+ | I+ | 5 | Resolver Excitation | R1 | 5 | Resolver Excitation | R1 |
| 6 | Common | ECOMM | 6 | Common | ECOMM | 6 | Common | ECOMM | 6 | Common | ECOMM |
| 7 | Encoder Power (+9V) | EPWR_9VM | 7 | Encoder Power (+9V) | EPWR_9VM | 7 | Encoder Power (+9V) | EPWR_9VM | 7 | Encoder Power (+9V) | EPWR_9VM |
| 8 | Single Ended 5V Hall Effect Commutation | S3 | 8 | Single Ended 5V Hall Effect Commutation | S3 | 8 | Reserved | ---- | 8 | Reserved | ---- |
| 9 | Reserved | ---- | 9 | Reserved | ---- | 9 | Reserved | ---- | 9 | Reserved | ---- |
| 10 | Index Pulse- | I- | 10 | Index Pulse- | I- | 10 | Resolver Excitation | R2 | 10 | Resolver Excitation | R2 |
| 11 | Motor Thermal Switch (normally closed) | TS | 11 | Motor Thermal Switch (normally closed) | TS | 11 | Motor Thermal Switch (normally closed) ¹ | TS | 11 | Motor Thermal Switch (normally closed) ¹ | TS |
| 12 | Single Ended 5V Hall Effect Commutation | S1 | 12 | Single Ended 5V Hall Effect Commutation | S1 | 12 | Reserved | ---- | 12 | Reserved | ---- |
| 13 | Single Ended 5V Hall Effect Commutation | S2 | 13 | Single Ended 5V Hall Effect Commutation | S2 | 13 | Reserved | ---- | 13 | Reserved | ---- |
| 14 | Encoder Power (+5V) | EPWR_5VM | 14 | Encoder Power (+5V) | EPWR_5VM | 14 | Encoder Power (+5V) | EPWR_5VM | 14 | Encoder Power (+5V) | EPWR_5VM |
| 15 | Reserved | ---- | 15 | Reserved | ---- | 15 | Reserved | ---- | 15 | Reserved | ---- |

| <u>AF</u> | | | <u>STEGMANN HIPERFACE PIN-OUT</u> | | | <u>AF</u> | | | <u>TTL or Sine/Cosine w/Index Pulse</u> | | |
|------------|-----------------------------|----------|-----------------------------------|-----------------------------|----------|------------|----------------------------------|-------------|---|----------------------------------|-------------|
| Pin Number | Terminal Signal Description | Signal | Pin Number | Terminal Signal Description | Signal | Pin Number | Terminal Signal Description | Signal | Pin Number | Terminal Signal Description | Signal |
| 1 | Sine Differential Input+ | SINE+ | 1 | Sine Differential Input+ | SINE+ | 1 | AM+ / Sine Differential Input+ | AM+ / SINE+ | 1 | AM+ / Sine Differential Input+ | AM+ / SINE+ |
| 2 | Sine Differential Input- | SINE- | 2 | Sine Differential Input- | SINE- | 2 | AM- / Sine Differential Input- | AM- / SINE- | 2 | AM- / Sine Differential Input- | AM- / SINE- |
| 3 | Cosine Differential Input+ | COS+ | 3 | Cosine Differential Input+ | COS+ | 3 | BM+ / Cosine Differential Input+ | BM+ / COS+ | 3 | BM+ / Cosine Differential Input+ | BM+ / COS+ |
| 4 | Cosine Differential Input- | COS- | 4 | Cosine Differential Input- | COS- | 4 | BM- / Cosine Differential Input- | BM- / COS- | 4 | BM- / Cosine Differential Input- | BM- / COS- |
| 5 | Hiperface data channel | DATA+ | 5 | Hiperface data channel | DATA+ | 5 | Index Pulse+ | I+ | 5 | Index Pulse+ | I+ |
| 6 | Common | ECOMM | 6 | Common | ECOMM | 6 | Common | ECOMM | 6 | Common | ECOMM |
| 7 | Encoder Power (+9V) | EPWR_9VM | 7 | Encoder Power (+9V) | EPWR_9VM | 7 | Encoder Power (+9V) | EPWR_9VM | 7 | Encoder Power (+9V) | EPWR_9VM |
| 8 | Reserved | ---- | 8 | Reserved | ---- | 8 | Reserved | ---- | 8 | Reserved | ---- |
| 9 | Reserved | ---- | 9 | Reserved | ---- | 9 | Reserved | ---- | 9 | Reserved | ---- |
| 10 | Hiperface data channel | DATA- | 10 | Hiperface data channel | DATA- | 10 | Index Pulse- | I- | 10 | Index Pulse- | I- |
| 11 | Reserved | ---- | 11 | Reserved | ---- | 11 | Reserved | ---- | 11 | Reserved | ---- |
| 12 | Reserved | ---- | 12 | Reserved | ---- | 12 | Reserved | ---- | 12 | Reserved | ---- |
| 13 | Reserved | ---- | 13 | Reserved | ---- | 13 | Reserved | ---- | 13 | Reserved | ---- |
| 14 | Encoder Power (+5V) | EPWR_5VM | 14 | Encoder Power (+5V) | EPWR_5VM | 14 | Encoder Power (+5V) | EPWR_5VM | 14 | Encoder Power (+5V) | EPWR_5VM |
| 15 | Reserved | ---- | 15 | Reserved | ---- | 15 | Reserved | ---- | 15 | Reserved | ---- |

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