

- Four High-Speed Counters, Max 200 kHz
- Four High-Speed Outputs, Max 200 kHz
- 24VDC Power Required
- 8 Digital Inputs, 8 Digital Outputs
- 3 Year Lithium Battery for Data Retention
- Multiple Communication Ports
- 4K Bytes of Programming Instructions
- 5K Bytes of Data
- 448 Bytes of EEPROM Backup



The KS105 is a small and thin PLC with high performance. It includes 16 digital I/O, 4 high-speed counters, 4 high-speed pulse outputs, 256 timers, 256 counters, RTC (Real Time Clock), 4 interrupts, one RS485 communication port, one RS232 programming port, optional CANopen port, and is expandable with up to 14 I/O modules. The high-speed counters come in 9 operation modes and support a single-phase or dual-phase frequency up to 200 KHz. In the 9 different modes, each counter has its own inputs for clock, direction control, start and reset, and has a 32-bit preset value. Three of the four high-speed pulse outputs – channels 0, 1, and 2 – can reach a maximum frequency of 200 KHz, while channel 3 can reach a maximum frequency of 10 KHz. All four high-speed output channels support both PTO and PWM. The KS105C1-16DT and 105C2-16DT support CANopen protocol. The free KincoBuilder software provides absolute and relative positioning, homing, jogging, and quick stop instructions. The KS105 Series is an ideal hub for data processing with field devices such as temperature modules, servo drives, field busses, and more.

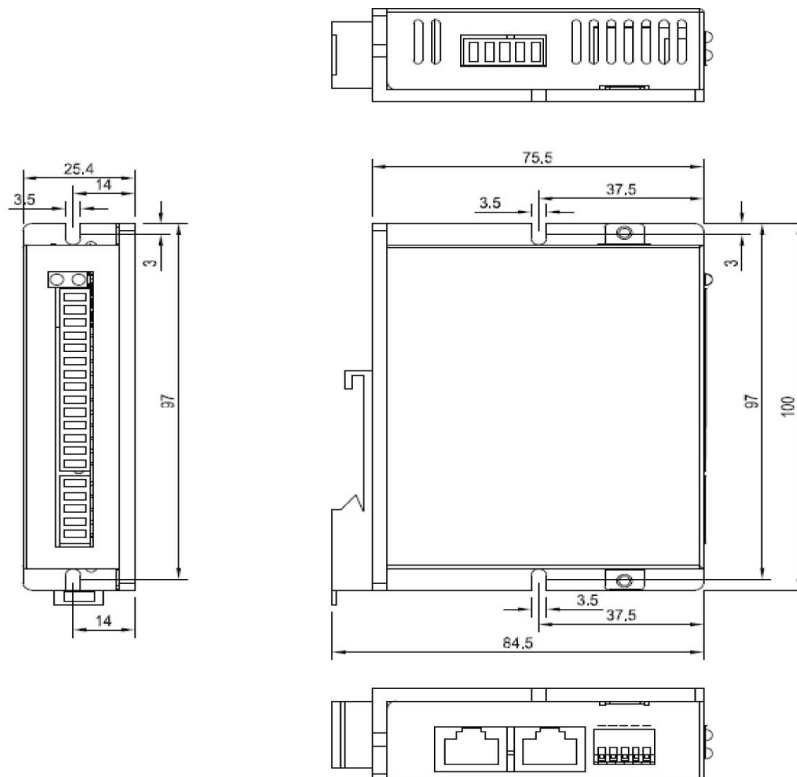
| Technical Specifications | |
|--|--|
| DI Specifications | |
| Input Points | 8 |
| Input Type | Source / Sink |
| Rated Input Voltage | DC 24V (Max. 30V) |
| Rated Input Current | 3.5mA@24VDC |
| Max Input Voltage of Logic 0 | 5V @ 0.7mA |
| Minimum Input Voltage of Logic 1 | Common Channel: 11V @ 2.0mA |
| Input Delay | Off -to- On: 1.2 µs; On -to- Off: 0.5 µs; |
| Isolation Between Input and Internal Circuit | Mode: Opto-Electrical Isolation Voltage: 500VAC/1 min |

| Technical Specifications | |
|---|---|
| DO Specifications | |
| Output Points | 8 |
| Output Type | Source |
| Rated Power Supply Voltage | 24 VDC, Allowance Range: 20.4-28.8 (Same as Power Supply) |
| Output Current Per Channel | Rated Current: 200mA, Max. 300mA @24VDC |
| Instant Impulse Current Per Channel | 1A, Less Than 1s |
| Output Leakage Current | Max. 0.5μA |
| Output Impedance | Max. 0.2Ω |
| Output Delay | <ul style="list-style-type: none"> • Off - to - On: Common Channel: 12μs; HSC Channel: 0.5s • On - to - Off: Common Channel: 35μs; HSC Channel: 1μs |
| Protection: | <ul style="list-style-type: none"> -Reverse Polarity Protection of Power Supply: No -Inductive Load Protection: Yes -Short-Circuit Protection: Yes -Reverse Polarity Protection of Output: Yes, less than 10s |
| Isolation Between Output and Internal Circuit | <ul style="list-style-type: none"> • Mode: Opto-electrical Isolation • Voltage: 500VAC / 1 min |

| Parameters | KS105-16DT | KS105C1-16DT | KS105C2-16DT |
|---------------------|--|-------------------------------------|-------------------------------------|
| Power Supply | | | |
| Rated Voltage | 24VDC | | |
| Voltage Range | 20.4 - 28.8VDC | | |
| I/O | | | |
| Digital | 8*DI / 8*DO | | |
| Serial Port | PORT0, RS232, Support Programming Protocol, MODBUS RTU Slave, Free Protocol PORT1,RS485, Support Programming Protocol, MODBUS RTU Master, Free Protocol | | |
| High Speed Counter | 4, Max 200KHZ, support single and double phase | | |
| High Speed Output | 4 Channel 0&1&2 Max 200KHz (load resistance is less than 1.5K Ω at the highest frequency). Channel 3 Max 10KHz | | |
| Interrupt | 4, 10.0 - 10.3 interrupt up and down | | |
| Expansion | 14 | | 14 |
| CAN | | CANopen Master or CAN Free Protocol | CANopen Master or CAN Free Protocol |
| Storage | | | |
| Programming | Max 4K Bytes Instruction | | |
| Data | M Area 1K Bytes; V Area 4K Bytes | | |
| Data Backup | E2PROM, 448 Bytes | | |
| Data Retention | 2K Bytes. Lithium Battery , 3 Years at Normal Environment | | |
| Other | | | |
| Timer | 256 1ms : 4 10ms : 16 100ms : 236 | | |
| Timer Interruption | 2, 0.1ms | | |
| Counter | 256 | | |
| RTC | Yes, the difference is 5 min/month at 25°C | | |

| Transport and Storage | | |
|------------------------------|-------------------|--|
| Ambient Conditions | Temperature | -40 ~ +70° C |
| | Relative Humidity | 10%~95%, No Condensation |
| | Altitude | Up to 3000m |
| Mechanical Conditions | Free Falls | With manufacturer's original packaging, 5 falls from 1m Height |

| Normal Operation | | |
|-------------------------------------|---------------------------------|---|
| Ambient Conditions | Air Temperature | Open Equipment : 10 ~ +55°C; Enclosed Equipment: -10 ~ +40°C |
| | Relative Humidity | 10% ~ 95%, No Condensation |
| | Altitude | Up to 2000m |
| | Pollution Degree | For use in Pollution Degree 2 |
| Mechanical Conditions | Sinusoidal Vibrations | 5<f<8.4Hz, Occasional: 3.5mm Amplitude; Continuous: 1.75mm Amplitude. 8.4<f<150, occasional: 1.0g acceleration; continuous: 0.5g acceleration |
| | Shock | Occasional excursions to 15g, 11 ms, half-sine, in each of 3 mutually perpendicular axes |
| Electromagnetic Compatibility (EMC) | Electrostatic Discharge | ±4kV Contact, ±8kV Air. Performance Criteria B |
| | High Energy Surge | A.C. Main Power: 2KV CM, 1KV DM; D.C. Main Power: 0.5KV CM, 0.5KV DM; I/Os and Communication Port: 1KVCM Performance Criteria B. |
| | Fast Transient Bursts | Main Power: 2KV, 5KHz. I/Os and Communication Port: 1KV, 5kHz. Performance Criteria B. |
| | Voltage Drops and Interruptions | A.C. Supply: at 50Hz, 0% voltage for 1 period; 40% voltage for 10 periods; 75% voltage for 20 periods. Performance Criteria A. |
| Ingress Protection Rating | IP20 | |

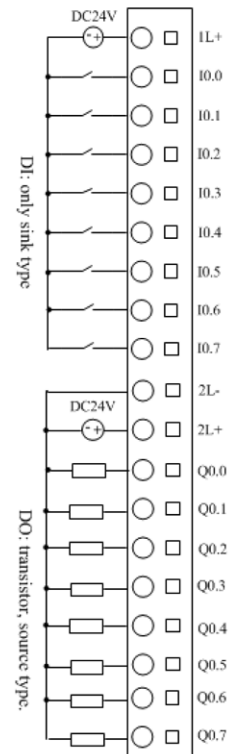
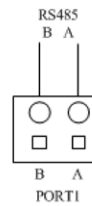
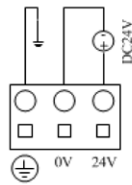


KS105-16DT

Ext.
Expansion Bus (in RJ45)

PORT0
RS232 (in RJ45)

| | Pin | Function |
|-------|-----|----------|
| RS232 | 3 | RXD |
| | 4 | TXD |
| | 6 | GND |



KS105C1-16DT

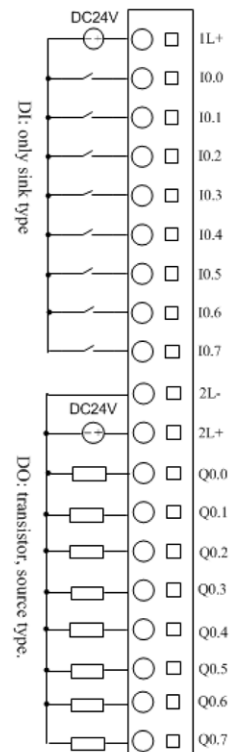
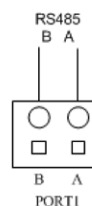
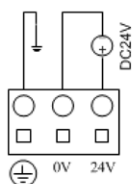
CAN
CAN (in RJ45)

PORT0
RS232 (in RJ45)

| | Pin | Function |
|-----|-----|----------|
| CAN | 1 | CAN_H |
| | 2 | CAN_L |
| | 3 | CAN_GND |

| | Pin | Function |
|-------|-----|----------|
| RS232 | 3 | RXD |
| | 4 | TXD |
| | 6 | GND |

There is one same CAN in the two RJ45 interfaces.



KS105C2-16DT

CAN 1
CAN (in RJ45)

| | Pin | Function |
|-----|-----|----------|
| CAN | 1 | CAN_H |
| | 2 | CAN_L |
| | 3 | CAN_GND |

The CAN 1 can also used as expansion bus

CAN2/PORT 0
(in RJ45)

| | Pin | Function |
|--------|-----|----------|
| CAN | 1 | CAN_H |
| | 2 | CAN_L |
| RS 232 | 3 | RXD |
| | 4 | TXD |
| | 6 | GND |

