

CT-121F

16-Channel Digital Input Module · 24 V DC · Sink (NPN) Type



The CT-121F is a 16-channel digital input module from the C-Series distributed remote-I/O system. It reads 24 V DC field signals in sink (NPN) configuration, accepting dry contacts or active sensor outputs (2-wire / 3-wire), with each channel opto-isolated from the internal bus and indicated by its own LED. The module mounts on a 35 mm DIN rail, connects field wiring through a push-in spring terminal, and snaps onto the system backplane bus alongside a network adapter/coupler. Every channel also provides a 32-bit counter (up to 200 Hz) and a configurable input-filter time, suiting machine control, conveyor/sensor monitoring and general factory automation.

General / Identification

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|---------------------------|---|
| Module type | 16-channel digital input, sink (NPN); high level active |
| Mounting | 35 mm DIN-rail; backplane bus coupling |
| Module dimensions (W×H×D) | 115 × 14 × 75 mm |
| Net weight | 65 g |
| Field wiring terminal | Push-in spring terminal, max 1.5 mm ² (AWG 16) |
| Power consumption | Max. 60 mA @ 5.0 V DC (internal bus) |
| Isolation | I/O to internal bus: opto-isolation, 3 kV rms |
| LED indication | 16 channel-status LEDs + power/status (PW, STA) |

Electrical / Functional (Inputs)

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|--------------------|--|
| Field power supply | Nominal 24 V DC (range 19.2 - 28.8 V DC) |
| Input channels | 16, sink type |
| Turn-on voltage | Min. 10 V DC to max. 28 V DC |
| Turn-off voltage | Max. 5 V DC |
| Turn-on current | Max. 5 mA / channel @ 28 V |
| Input impedance | > 7.5 kΩ |
| Input delay | OFF→ON max. 3 ms; ON→OFF max. 2 ms |
| Input filter time | Default 10 ms (configurable) |
| Sample frequency | 500 Hz |
| Counter | 32-bit per channel, frequency < 200 Hz (estimate - confirm against unit) |

Mechanical & Environmental

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|-----------------------|-----------------------------|
| Operating temperature | -35 to +70 °C |
| Operating humidity | 5% - 95% RH, non-condensing |
| Protection class | IP20 |
| Compliance marking | CE; RoHS (per unit marking) |

Ordering / Packaging

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|------------|---|
| Order code | CT-121F |
| Function | 16 DI / 24 V DC / sink (NPN) |
| System | C-Series remote I/O (requires compatible network adapter + terminal module) |

Typical applications: machine & cabinet control, conveyor and sorting-line sensor monitoring, limit/proximity/photoelectric switch acquisition, valve & pump status feedback, low-speed counting.