FasTrak

Smart positioner with high-capacity, high-precision digital-pneumatic valve controller
FasTrak Smart Positioner

FasTrak is a high-capacity, high-precision digital-pneumatic valve controller that replaces a conventional positioner. It has an excellent dynamic performance and high flow ($Cv = 2$). Configuration and calibration is carried out with a HART™ device or by self calibration. FasTrak is compatible with double and single acting actuators, with or without a spring, a piston or a diaphragm.

**Key features**

- **High Flow Precision Control**
  The unique design allows high speed performance in large volume actuators without additional amplification (e.g. booster or quick exhaust)

- **Control Algorithms & Hardware**
  Self calibration on double acting piston, diaphragm, rotary actuator with or without spring; patented adjustable independent control parameter to open and close stroke

- **Strong Shaft Design**
  Not sensitive to radial and axial external load caused by mounting and linkages

- **Environmental Protection**
  The IP66 protection and unique exhaust protection system makes it suitable to be installed in harsh environments where there is tropical rain, dust, sand, salt.

- **Embedded Features**
  - 4-20 mA position feedback
  - Digital inputs for configurable trips
  - Digital outputs configurable for limit switches and/or alarm

- **Communications**
  - 4-20 mA control and power with HART™ communication protocol
  - High speed serial connection

- **Software Interface**
  Dedicated software (RCFT) to set, customize, control and monitor high dynamic performance

- **Certifications & Approvals**
  - EUROPEAN DIRECTIVE
  - Intrinsically safe (Ex ia) / Explosion proof (Ex d [ia]) according to:
    - ATEX (2014/34/EU)
    - IECEX
    - CSA/cUS
    - TR CU
    - INMETRO

**Benefits**

- No need for an amplification device in most applications
- Superior control capacity of amplification device when installed
- High flow with quick, precise complete control capability
- Powerful self calibration software with the ability to totally personalise the parameters
- Wide set of configurable embedded features
- Robust design with a full metal housing

FasTrak is available in stainless steel 316 with explosion proof barrier.
### Technical specifications

#### Connection

| Power         | 2 wire from signal min 3.5 mA, 12/30 Vdc (Ex ia)  
|              | min 3.5 mA, 19/24 Vdc (Ex d) |
| Electrical connections | Signal ½" NPT (or metric M20x1.5 on request)   
|              | Auxiliary input / output ½" NPT (or metric M20x1.5 on request) |
| Pneumatic connections | ½" NPT female |
| Communication protocol | HART™ |
| Protocol       | TTL RS232 |

#### Electrical connections

- **Signal**: 4-20 mA with HART™ protocol
- **On off**: Nr 2 configurable digital (optocoupler 24Vdc)

#### Pneumatic connections

- **Position**: 4-20 mA passive loop
- **On off**: Nr 2 configurable digital (optocoupler 24Vdc)

#### Stroke Movement

- **Feedback angle of rotation**: 30°/120° (<30° with lower resolution)
- **Adjustable speed**: Range 0/300 seconds, individually configurable for each direction
- **Characteristic curve**: Linear
- **Control parameter**: Individually configurable for each direction
- **Travel control**: Minimum and maximum settable stroke limits
- **Adjustable thrust on seat**

#### Air Supply

- **Instrument air**: Free of oil, water and dust to ISO 8573-1 - Class 3
- **Supply pressure**: 2.5÷10 bar
- **Air consumption**:
  - CV=2: 1.5 Nm³/h at 6 bar
  - CV=0.3: 0.5 Nm³/h at 6 bar

#### Performance Data (for angle > 90°)

- **Hysteresis + deadband**: ±0.15% according to IEC 61514-2
- **Repeatability**: ±0.15%
- **Sensitivity**: ±0.1%
- **Linearity**: ±0.3%
- **Influence of ambient temperature**: 0.3% for every 10°C
- **Air capacity**: Up to 180 Nm³/h at 6 bar (CV 2.3)

#### Environmental Capabilities

- **Ambient**: Protection IP66 NEMA 4X
- **Operation temperature**: -40° to +80°C
- **Humidity**: Up to 100%
- **Vibrations**: Up to 2g (ISA S75.13)
- **CE mark**: CE conformity and EMC

#### Materials

- **Aluminium**
- **Stainless steel feedback shaft**
- **Fully stainless steel 316**

#### Weight

- **Aluminium (Ex ia)**: 3.25 kg
- **Aluminium (Ex d)**: 4.11 kg
- **Stainless steel 316 (Ex ia)**: 8.82 kg
- **Stainless steel 316 (Ex d)**: 10.78 kg

### Options & accessories

- Remote feedback sensor
- Universal linkage for:
  - linear long stroke actuator (70÷1500 mm)
  - VDI/VDE 3845 for rotary applications
  - lever for side yoke or top mounting application
  - customized application
- Directly mounted pneumatic accessories:
  - gauges and lock up valve
- Collected or high silenced exhaust
- High speed communication kit
- High corrosion resistance version stainless-steel 316 case
- Fail in place version
- Advanced diagnostic with option pack
- Display and push button
- Low air capacity version
- Low bleed version

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Full model selection available on our website [www.imi-critical.com](http://www.imi-critical.com)
Remote control software interface

> User friendly interface with all key parameters shown on one screen
> Tool for easy mechanical feedback alignment
> Self calibration wizard
> All parameters with full control via an interactive start up page
> Graph tool for performance monitoring with configurable parameters

> Events and errors report
> Certified HART™ protocol communication 375/475 handheld compliant
> Option Pack 1 Advanced diagnostic: Valve signature - Step response and other features
> Option Pack 2 Advanced feature: Stability control - Soft approach to seat - Frequency response analysis and other features