

# JANUS MACHINE DOOR ACTUATORS

## NEW SAFE PROTECTIVE MACHINE DOOR DRIVES

### JANUS Type SMDA-200 and SMDA-400

The use of automatic door drives in modern machines has increased in recent years. The trend towards automating every possible machine function also includes opening and closing the doors of protective machine hoods. Loading and unloading machines represents a particular source of danger for both the operating personnel and expensive loading robots.

Thanks to functionality based on many years of experience, machine door actuators offer application-specific software and the latest generation of drive elements for the ideal solution both technically and economically.

New generation and yet tried and proven. The basis for the new generation is the tried and proven TÜV certified (EN-13849-1 PLd) iMotion® technology for personal access supplied by the TORMAX Division of Landert Motoren AG.

JANUS protective machine door drives include the technology for implementing a safe force and speed

limit for horizontal doors with door weights up to 750 kg (approx. 1,653 lbs) and more. This enables safe compliance with the approved forces without requiring additional safety elements such as light barriers or two-handed operation. The drive is fitted with a protective function which triggers an immediate change of direction to prevent irreversible damage if an obstacle is encountered.

The intelligent operating software – SMDTuner – assures efficient commissioning of the drive. Thanks to the integrated AutoTuning, there is virtually no need to perform settings during commissioning. The system works in the low voltage range and includes a galvanically isolated mains power supply as well as an opto-isolated interface for the superordinate PLC. With the new JANUS drives, Dynatect continues to offer mechanical engineers valuable support for implementing safe and reliable automated protective doors.



## TRIED AND PROVEN THANKS TO MANY YEARS OF EXPERIENCE

### Features:

- Fast opening and closing times
- Compact, space saving and maintenance free
- Direct drive configurable with the SMDTuner Intelligent Operating Software

### Applications:

- Machine tools (lathing, milling, grinding etc.)
- Die casting machines
- General production machines



Multi-Spindle Machine



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Lathing Machine



Machining Center

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## YOUR ADVANTAGES AT-A-GLANCE

The new generation of machine door actuators from Dynatect unite reliable components, integrated safety, self-optimization, and our many years of practical application experience on the market. The result: a complete end-to-end solution. The system includes the technology for implementing safe force and speed limits compliant with EN 13849 for horizontal doors. The permissible forces compliant with EN 12453 are maintained.

### Motor:

- Compact, maintenance-free and gearless direct drive with integrated position sensor
- Three variants available: with attached toothed belt wheel, spur wheel or with free shaft end
- Easy connect power and transmitter connections, turnable 270°
- Protection class IP54 (EU)

### Control System:

- Compact control system with integrated power supply unit, mains filter, motion controller, power driver, and galvanically isolated I/O
- No external components such as sensors or brake resistors necessary
- 7-segment status display
- 12 LEDs for I/O state indication
- Plug-in connections

### Interface:

- Actuation via digital I/O
- Programming via RS-232 interface
- USB to RS-232 converter optionally available

### Functionality:

- STO – Safe Torque Off
- SS1 – Safe Stop 1
- SLS – Safe Limited Speed
- SLT – Safe Limited Torque
- Integrated obstacle detection with reverse mode
- AutoTuning with door weight detection and automatic setting of the regulation parameters
- Additional external sensors can be connected and configured if necessary



Motor with Free Shaft End



Motor with Toothed Belt Wheel



Motor with Spur Wheel



Tested Safety: Compliant with EU Machine Directive 2006/42/EC.

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## SDM TUNER

**Quick and easy.** With the user-friendly SMDTuner operating software, commissioning the protective door the first time is quick and easy. This PC software is used to program the machine door actuator, start up the machine door actuator, query status values, and save the data so that data records already created can be archived for documentation purposes.

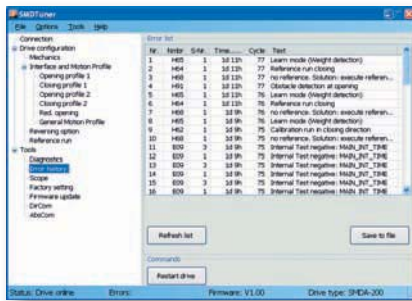
The software is easy to use and requires no special training. A wizard guides you through the submenus in just a few steps. The software lets you individually optimize all JANUS drive types for various door configurations. This reduces costs during commissioning and maintenance.

### Optimization:

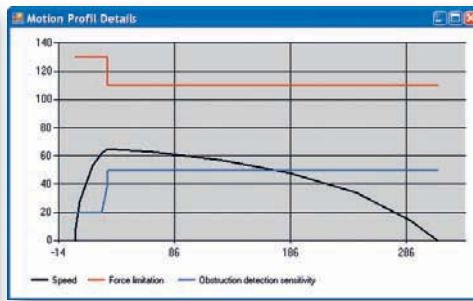
- Optimization tools are available to advanced users in order to achieve the maximum dynamics and elegance of the motion sequence for each specific system and to record movement profiles in real time.

### Accessories:

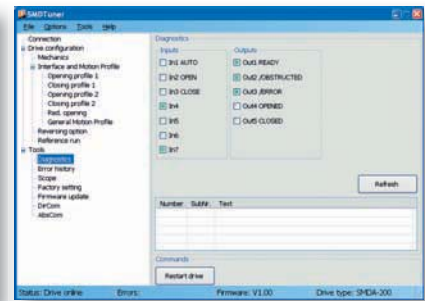
- The right toothed belt in the required length
- Toothed belt clamp
- Idler pulley
- Pre-dimensioned cables for motor and encoder in various lengths
- RS-232 to USB interface converter



Error History



Scope Function



Status Query



Toothed Belt and Idler Pulley



RS-232 to USB Converter

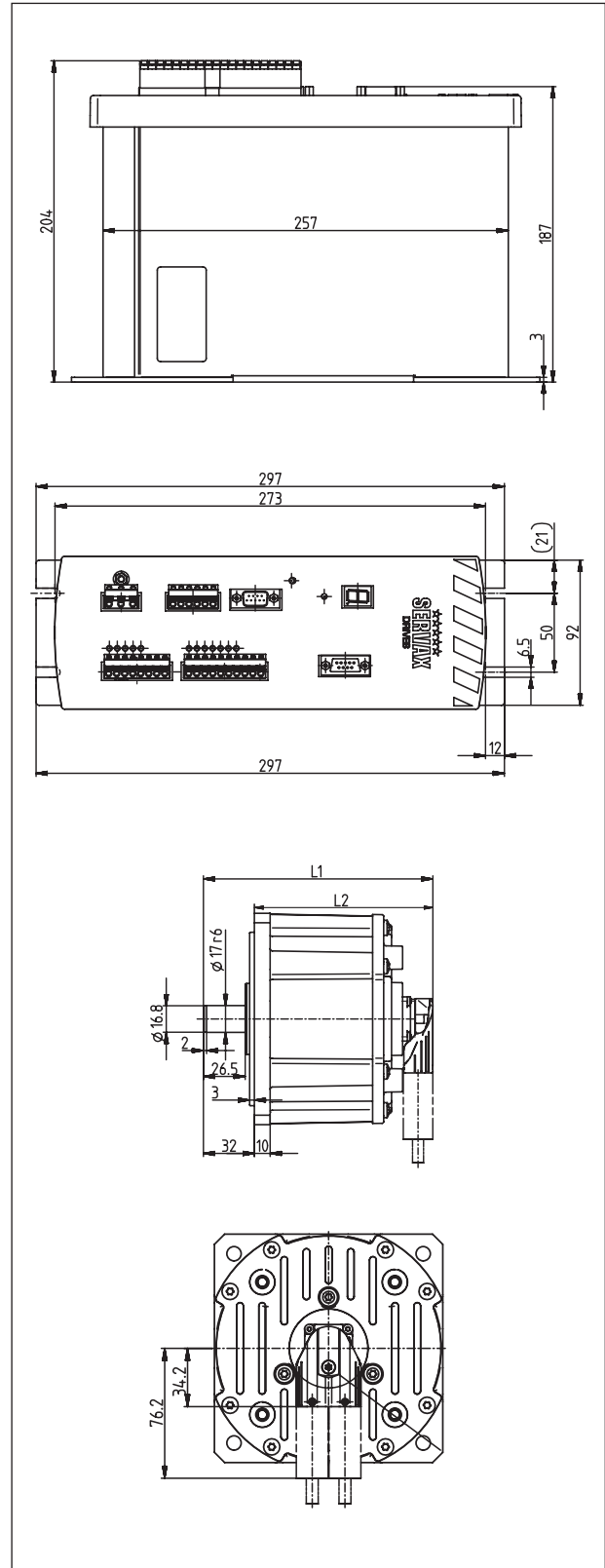


Pre-Dimensional Cables

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## SMDA-200 AND SMDA-400 TECHNICAL DATA

TYPE		SMDA-200	SMDA-400
Door Weight	kg	Up to 260	200 to Approx. 750
Tensile Force	N	230	400
Traverse Path	mm	Unlimited	Unlimited
Max. Traversing Speed	m/s	1.0	1.0
MOTOR DATA			
Motor Technology		16-Pole Permanent Magnet Direct Drive	16-Pole Permanent Magnet Direct Drive
Nominal Motor Torque	Nm	3.1	5.4
Motor Pulse Torque	Nm	6.0	9.8
Nominal Speed at Nominal Torque	min <sup>-1</sup>	335	270
Length Over All L1	mm	145.5	169
Installation Depth L2	mm	113.5	137
Motor Weight	kg	3.9	5.3
Mounting Position		Any	Any
Motor Voltage	VAC	17	22
Protection		IP54	IP54
CONTROL DATA			
Continuous Current	A	8.5	10.0
Max. Power Consumption	W	190	310
Mains Voltage	VAC	115/230	115/230
Mains Frequency	Hz	50/60	50/60
Operation Ambient Temperature	°C	+10...+40	+10...+40
Relative Humidity	%	15...85	15...85
Protection		IP20	IP20
Digital I/O	VDC	24	24
Connectors		- 7 Galvanically Isolated Control Inputs - 5 Galvanically Isolated Control Outputs - 1 RS-232 Configuration Interface - 1 Motor Power Connection - 1 Motor Encoder Connection - 1 115/230 VAC Mains Connection	
Preconfigured Input Functions		AUTO Mode, Open, Close	
Freely Selectable Input Functions		2nd Travel Profile, Reduced Open, Reference Switch, External Sensors	
Output Functions		Door Referenced, Door Closed, Door Open, Error, Obstacle Detected	
Housing Dimensions (H x B x T)	mm	297 x 92 x 187	

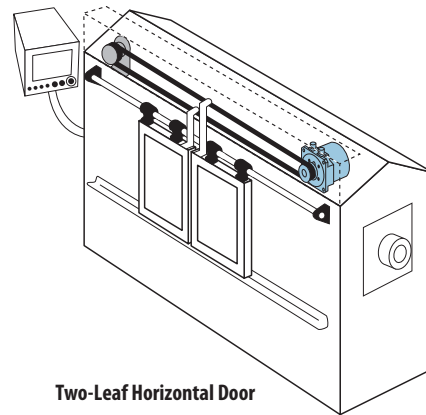
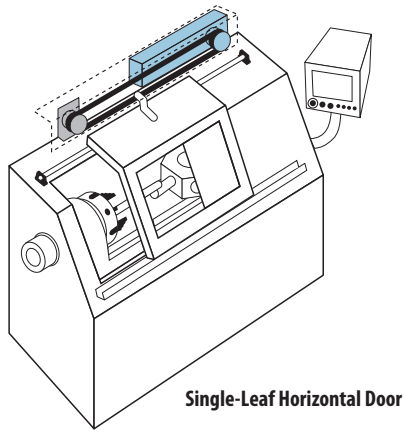


# JANUS DOOR ACTUATORS | QUOTE REQUEST FORM

Date \_\_\_\_\_ Address \_\_\_\_\_  
 Company Name \_\_\_\_\_ City \_\_\_\_\_ State/Prov. \_\_\_\_\_  
 Contact \_\_\_\_\_ Country \_\_\_\_\_ Zip/Postal Code \_\_\_\_\_  
 Quantity \_\_\_\_\_ Telephone \_\_\_\_\_ Fax \_\_\_\_\_  
 Email \_\_\_\_\_

**1. Application Information** (Please supply a sketch/drawing/CAD file [DWG or DXF file format]/photo of your application.)

Machine Make: \_\_\_\_\_ Machine Model/Part Number: \_\_\_\_\_  
 Single Door     Double Door (opposite directions)  
 New Design     Retrofit/Replacement



**2. Environmental Information**

Temperature Range: Continuous (ambient): \_\_\_\_\_ Minimum: \_\_\_\_\_ Maximum: \_\_\_\_\_     °F     °C  
 Comments: \_\_\_\_\_

**3. Voltage Options**

120 V (Single Phase)     230 V (Single Phase)     400 V (Three Phase)

**4. Door Information** (Please specify unit of measurement.)

Door Length: \_\_\_\_\_  
 Door Height: \_\_\_\_\_  
 Door Weight: \_\_\_\_\_  
 Physical Pull Force, Door: \_\_\_\_\_  
 Frequency of Door Motion: \_\_\_\_\_ cycles per day  
 Maximum Door Travel Distance: \_\_\_\_\_  
 Outside Dimensional Restrictions:     Yes – Provide a drawing (DWG or DXF file format preferred) or more information     No