

# HT-TB-100-200G-EXMER Flap

## EXMER Series

### Features and Benefits

- Selection of 3 diameter
- Custom built diameter
- 100% sealed
- Integrated Design
- Sealing through O-Ring Design
- Special Diameter available
- Controlled through CAN, 4-20mA, 0-10VDC etc.
- Position Feedback integrated
- 3 different speed selection
- Mechanical position indication
- Pressure sealed up to 10 bar



## HT-TB-EXMER throttle flap

Huegli Tech presents the Integrated large throttle flaps with integrated stepper motor controlling the gas flow in gas trains or Airflow. The flaps are made out of high quality aluminium with sealed shaft ends for zero leakage.

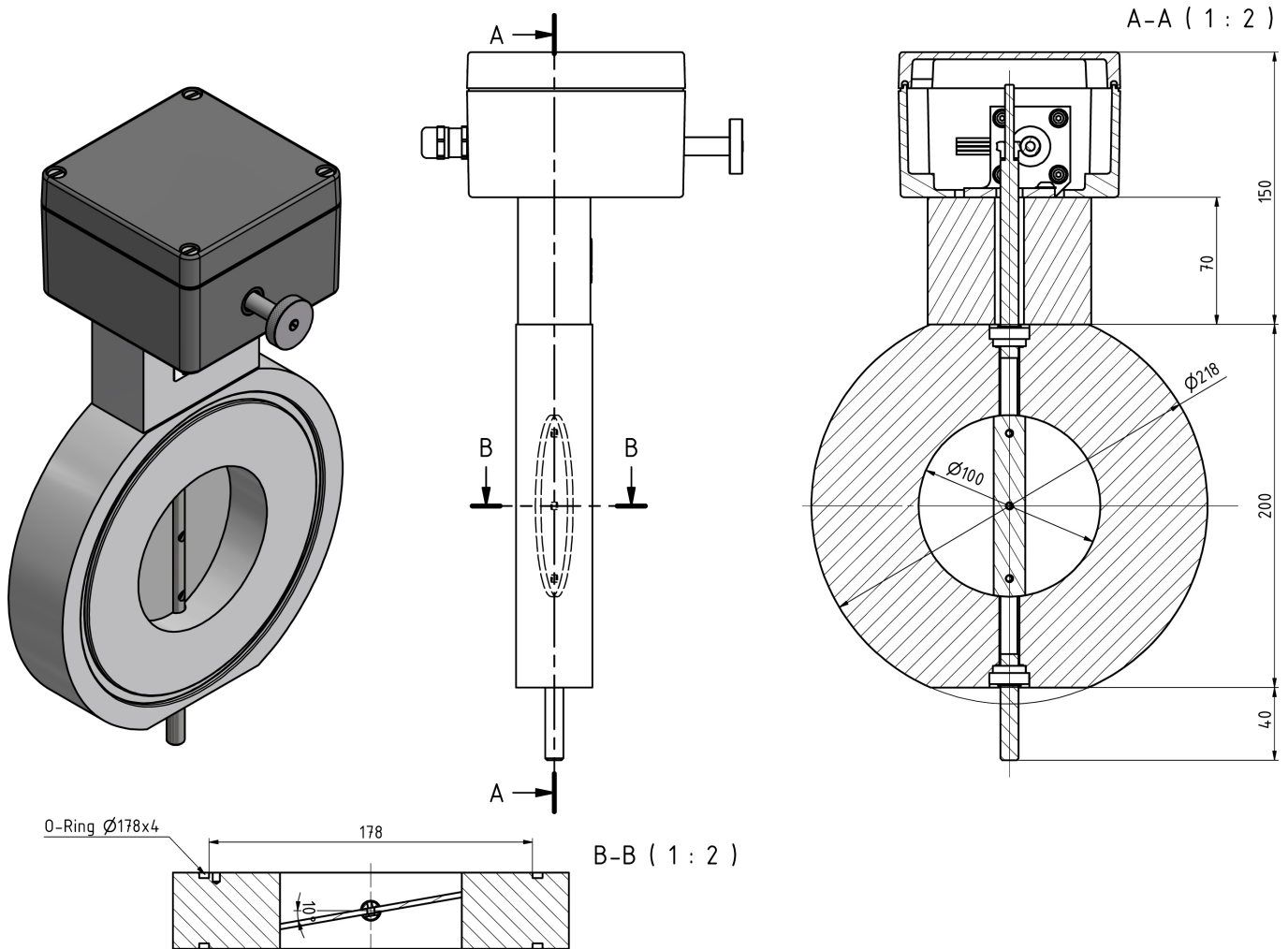
The TB flaps are driven by Huegli Tech's well-proven Torque Motor with integrated feedback. An indicator on the bottom of the flap which usefully provides a direct visual indication of the flap position. The flap has sealed bearings and high temperature sealing rings to prevent leakage.

# HT-TB-100-200G-EXMER Flap

EXMER Series

## Dimensions

### HT-TB-100G-EXMER



## Technical Specification

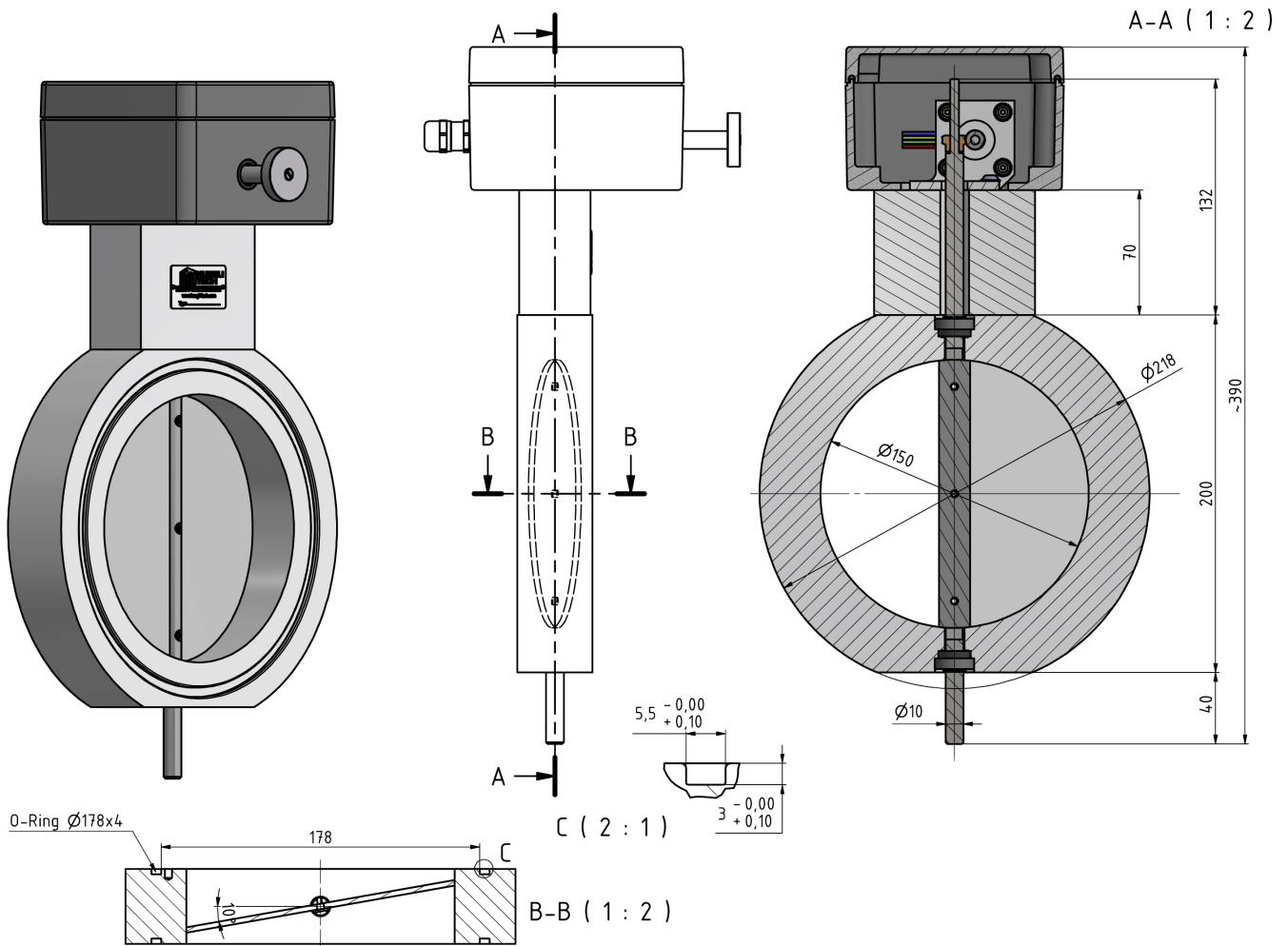
Opening Angle .....	90°
Operating Temperature .....	-40°C...85°C
Storage Temperature .....	-60°C...85°C
Vibration .....	up to 2G(peak) 50-500Hz
Operation Signal selectable .....	CAN; 4-20mAmp; 0-20mAmp; 0-10VDC; 0-5VDC
Feedback Signal Output selectable .....	0-5VDC; 0-10VDC; 0-20mAmp; 4-20mAmp
Operating Angle from fully closed to fully open .....	10°-90°
Speed selection on PCB .....	2.4-60 Seconds
Pressure sealed up to .....	10 bar rel.
Weight .....	5kg

# HT-TB-100-200G-EXMER Flap

EXMER Series

## Dimensions:

### HT-TB-150G-EXMER



## Technical Specification

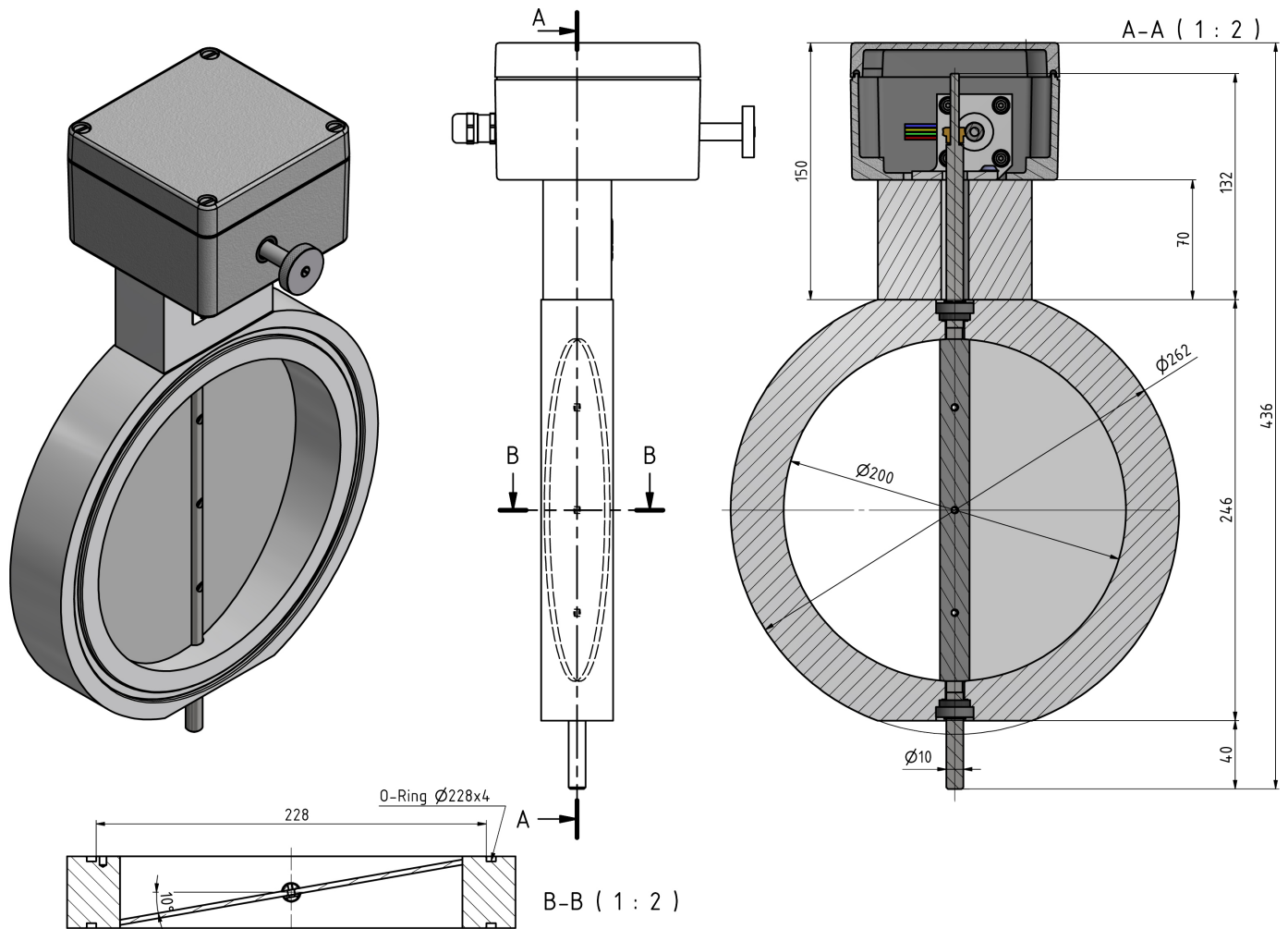
Opening Angle .....	90°
Operating Temperature .....	-40°C...85°C
Storage Temperature .....	-60°C...85°C
Vibration .....	up to 2G(peak) 50-500Hz
Operation Signal selectable .....	CAN; 4-20mA; 0-20mA; 0-10VDC; 0-5VDC
Feedback Signal Output selectable .....	0-5VDC; 0-10VDC; 0-20mA; 4-20mA
Operating Angle from fully closed to fully open .....	10°-90°
Speed selection on PCB .....	2.4-60 Seconds
Pressure sealed up to .....	10 bar rel.
Weight .....	4,5kg

# HT-TB-100-200G-EXMER Flap

EXMER Series

## Dimensions:

### HT-TB-200G-EXMER



## Technical Specification

Opening Angle .....	90°
Operating Temperature .....	-40°C...85°C
Storage Temperature .....	-60°C...85°C
Vibration .....	up to 2G(peak) 50-500Hz
Operation Signal selectable .....	CAN; 4-20mA; 0-20mA; 0-10VDC; 0-5VDC
Feedback Signal Output selectable .....	0-5VDC; 0-10VDC; 0-20mA; 4-20mA
Operating Angle from fully closed to fully open .....	10°-90°
Speed selection on PCB .....	2.4-60 Seconds
Pressure sealed up to .....	10 bar rel.
Weight .....	5kg

# HT-TB-100-200G-EXMER Flap

EXMER Series

## Mechanical Position Indication:



## Mating Wiringharness:

Order Number for Mating Harness for EXMER	
CH-EXMER-L4:	Driver Cable length 4 meter
CH-EXMER-L7:	Driver Cable length 4 meter
CH-EXMER-F-L4:	For Position Feedback length 4 meter
CH-EXMER-F-L7:	For Position Feedback length 7 meter



## DIP SWITCH CONFIGURATION RM-REV2 CONTROLLER:

### 1. Speed Configuration

Switch(S1) Position	Speed in seconds												
<table border="1"><thead><tr><th>S1:</th><th>OFF</th><th>ON</th></tr></thead><tbody><tr><td>4</td><td style="background-color: #0070C0;"></td><td></td></tr><tr><td>5</td><td style="background-color: #0070C0;"></td><td></td></tr><tr><td>6</td><td style="background-color: #0070C0;"></td><td></td></tr></tbody></table>	S1:	OFF	ON	4			5			6			<p>2.4 Sec.</p> <p>(Speed 1)</p>
S1:	OFF	ON											
4													
5													
6													

Switch(S1) Position	Speed in seconds												
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>4</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>5</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>6</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> </tbody> </table>	S1:	OFF	ON	4			5			6			<p><b>5 Sec.</b> (Speed 2)</p>
S1:	OFF	ON											
4													
5													
6													
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>4</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>5</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>6</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> </tbody> </table>	S1:	OFF	ON	4			5			6			<p><b>13 Sec.</b> (Speed 3)</p>
S1:	OFF	ON											
4													
5													
6													
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>4</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>5</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>6</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> </tbody> </table>	S1:	OFF	ON	4			5			6			<p><b>36 Sec.</b> (Speed 4)</p>
S1:	OFF	ON											
4													
5													
6													
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>4</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>5</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>6</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> </tbody> </table>	S1:	OFF	ON	4			5			6			<p><b>60 Sec.</b> (Speed 5)</p>
S1:	OFF	ON											
4													
5													
6													

Switch(S1) Position	Speed in seconds												
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>4</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>5</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>6</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> </tbody> </table>	S1:	OFF	ON	4			5			6			<p><b>5 Sec.</b> (Speed 6)</p>
S1:	OFF	ON											
4													
5													
6													
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>4</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>5</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>6</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> </tbody> </table>	S1:	OFF	ON	4			5			6			<p><b>5 Sec.</b> (Speed 7)</p>
S1:	OFF	ON											
4													
5													
6													
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>4</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>5</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>6</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> </tbody> </table>	S1:	OFF	ON	4			5			6			<p><b>FREE</b> (for future use)</p>
S1:	OFF	ON											
4													
5													
6													

## 2. Stepper Motor Control Input Configuration

Switch(S1) Position	Active Input for Stepper Motor																		
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>7</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>8</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>9</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>10</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>11</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> </tbody> </table>	S1:	OFF	ON	7			8			9			10			11			<p>Input <b>0-5V</b> used to control the stepper motor</p> <p>(Yellow LED 'ON')</p>
S1:	OFF	ON																	
7																			
8																			
9																			
10																			
11																			
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>7</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>8</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>9</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>10</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>11</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> </tbody> </table>	S1:	OFF	ON	7			8			9			10			11			<p>Input <b>0-10V</b> used to control the stepper motor</p> <p>(Green LED 'ON')</p>
S1:	OFF	ON																	
7																			
8																			
9																			
10																			
11																			
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>7</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>8</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>9</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>10</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>11</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> </tbody> </table>	S1:	OFF	ON	7			8			9			10			11			<p>Input <b>0-20mA</b> used to control the stepper motor</p> <p>(Red LED 'ON')</p>
S1:	OFF	ON																	
7																			
8																			
9																			
10																			
11																			



Switch(S1) Position	Active Input for Stepper Motor																		
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>7</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>8</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>9</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>10</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>11</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> </tbody> </table>	S1:	OFF	ON	7			8			9			10			11			<p>Input <b>4-20mA</b> used to control the stepper motor</p> <p>(Red + Red LED 'ON')</p>
S1:	OFF	ON																	
7																			
8																			
9																			
10																			
11																			
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>7</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>8</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>9</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>10</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>11</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> </tbody> </table>	S1:	OFF	ON	7			8			9			10			11			<p>CAN bus command used to control the stepper motor Address:1552(610h)</p> <p>(Red + Green LED 'ON')</p>
S1:	OFF	ON																	
7																			
8																			
9																			
10																			
11																			
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>7</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>8</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>9</td> <td></td> <td style="background-color: #4a86e8;"></td> </tr> <tr> <td>10</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> <tr> <td>11</td> <td style="background-color: #4a86e8;"></td> <td></td> </tr> </tbody> </table>	S1:	OFF	ON	7			8			9			10			11			<p>CAN bus command used to control the stepper motor Address:1553(611h)</p> <p>(Green + Yellow LED 'ON')</p>
S1:	OFF	ON																	
7																			
8																			
9																			
10																			
11																			

Switch(S1) Position	Active Input for Stepper Motor																		
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>7</td> <td style="background-color: #4F81BD;"></td> <td></td> </tr> <tr> <td>8</td> <td></td> <td style="background-color: #4F81BD;"></td> </tr> <tr> <td>9</td> <td></td> <td style="background-color: #4F81BD;"></td> </tr> <tr> <td>10</td> <td style="background-color: #4F81BD;"></td> <td></td> </tr> <tr> <td>11</td> <td style="background-color: #4F81BD;"></td> <td></td> </tr> </tbody> </table>	S1:	OFF	ON	7			8			9			10			11			<p>Free1 (Red + Yellow LED 'ON')</p>
S1:	OFF	ON																	
7																			
8																			
9																			
10																			
11																			
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>7</td> <td></td> <td style="background-color: #4F81BD;"></td> </tr> <tr> <td>8</td> <td></td> <td style="background-color: #4F81BD;"></td> </tr> <tr> <td>9</td> <td></td> <td style="background-color: #4F81BD;"></td> </tr> <tr> <td>10</td> <td style="background-color: #4F81BD;"></td> <td></td> </tr> <tr> <td>11</td> <td style="background-color: #4F81BD;"></td> <td></td> </tr> </tbody> </table>	S1:	OFF	ON	7			8			9			10			11			<p><b>Auto Running UP/DOWN</b> (For testing purpose; All LED 'ON' = Yellow + Orange)</p>
S1:	OFF	ON																	
7																			
8																			
9																			
10																			
11																			

### 3. Feedback Converter Input Configuration

Switch(S1) Position	Active Input for Feedback Converter									
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>2</td> <td style="background-color: #4F81BD;"></td> <td></td> </tr> <tr> <td>3</td> <td style="background-color: #4F81BD;"></td> <td></td> </tr> </tbody> </table>	S1:	OFF	ON	2			3			<p>Feedback Input <b>0.5 - 4.5V</b> used for conversion and output (0-20mA/4-20mA/0-5V/0-10V)</p>
S1:	OFF	ON								
2										
3										
<table border="1"> <thead> <tr> <th>S1:</th> <th>OFF</th> <th>ON</th> </tr> </thead> <tbody> <tr> <td>2</td> <td></td> <td style="background-color: #4F81BD;"></td> </tr> <tr> <td>3</td> <td style="background-color: #4F81BD;"></td> <td></td> </tr> </tbody> </table>	S1:	OFF	ON	2			3			<p>Auxiliary Feedback Input <b>0 - 5V</b> used for conversion and output (0-20mA/4-20mA/0-5V/0-10V)</p>
S1:	OFF	ON								
2										
3										

Switch(S1) Position	Active Input for Feedback Converter									
<table border="1"> <tr> <td>S1:</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>2</td> <td style="background-color: #0070C0;"></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td style="background-color: #0070C0;"></td> </tr> </table>	S1:	OFF	ON	2			3			<p>Auxiliary Feedback Input 0 - 10V used for conversion and output (0-20mA/4-20mA/0-5V/0-10V)</p>
S1:	OFF	ON								
2										
3										
<table border="1"> <tr> <td>S1:</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>2</td> <td></td> <td style="background-color: #0070C0;"></td> </tr> <tr> <td>3</td> <td></td> <td style="background-color: #0070C0;"></td> </tr> </table>	S1:	OFF	ON	2			3			<p>CAN bus command used for conversion and output (0-20mA/4-20mA/0-5V/0-10V)</p> <p>(* Set CAN bus address on input config)</p>
S1:	OFF	ON								
2										
3										

#### 4. Feedback Converter Output Configuration

Switch(S1) Position	Active output						
<table border="1"> <tr> <td>S1:</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>1</td> <td style="background-color: #0070C0;"></td> <td></td> </tr> </table>	S1:	OFF	ON	1			<p>Output1: <b>0-5V</b> Output2: <b>0-20mA</b></p>
S1:	OFF	ON					
1							
<table border="1"> <tr> <td>S1:</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>1</td> <td></td> <td style="background-color: #0070C0;"></td> </tr> </table>	S1:	OFF	ON	1			<p>Output1: <b>0-10V</b> Output2: <b>4-20mA</b></p>
S1:	OFF	ON					
1							

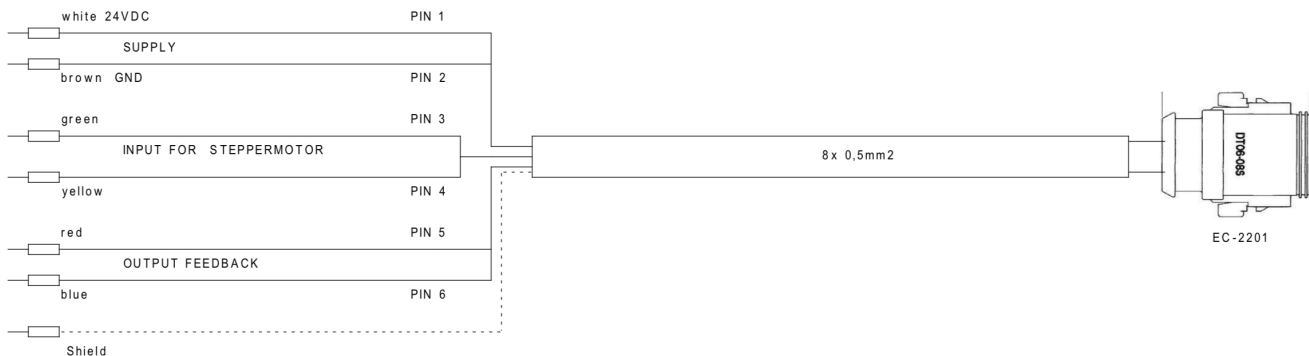
#### 5. CAN Bus Termination Resistor

Switch Position(SW5)	Termination Resistor						
<table border="1"> <tr> <td>S1:</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>12</td> <td style="background-color: #0070C0;"></td> <td></td> </tr> </table>	S1:	OFF	ON	12			<p>Termination Resistor 120 Ohms disconnected</p>
S1:	OFF	ON					
12							
<table border="1"> <tr> <td>S1:</td> <td>OFF</td> <td>ON</td> </tr> <tr> <td>12</td> <td></td> <td style="background-color: #0070C0;"></td> </tr> </table>	S1:	OFF	ON	12			<p>Termination Resistor 120 Ohms connected</p>
S1:	OFF	ON					
12							

# HT-TB-100-200G-EXMER Flap

EXMER Series

## Wiring Diagramm:

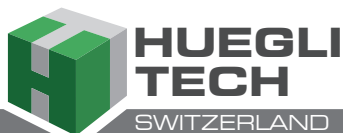


Input Stepper	green	yellow	Output Feedback	red	blue
CAN	High	Low			
0-5V	0-5VDC	GND			
0-10V	0-10VDC	GND	0-10V	0-10VDC	GND
0-20mA	0-20mA	GND	0-20mA	0-20mA	GND
4-20 mA	4-20mA	GND	4-20mA	4-20mA	GND

A pair of shrink tubes marked "air" , "gas" included with each harnesss



Local Distributor / Partner:



HUEGLI TECH AG (LTD)  
Murgenthalstrasse 30  
4900 Langenthal Switzerland  
Phone: +41 62 916 50 30  
Fax: +41 62 916 50 35

e-mail: [sales@huegli-tech.com](mailto:sales@huegli-tech.com)  
[www.huegli-tech.com](http://www.huegli-tech.com)