

# CTL-S700 series

## Safety controller for mobile machines

### Applications

- Mobile Cranes
- Truck-mounted Cranes
- Knuckle Boom Cranes
- Forestry Equipment

### Special Features

- For use in safety-critical applications acc. to:
  - IEC/EN 61508 Parts 1-7:2015 SIL 2
  - EN ISO 13849:2015 PL d
  - EN 62061:2005 + AC:2010 + A1:2013 + A2:2015 SILCL 2
- 32-Bit Tri-Core processor
- up to 64 inputs and 56 outputs
- 4 CAN interfaces
- up to 2 Ethernet interfaces
- Programmable according to IEC 61131-3 with CODESYS 3.5



CTL-S701 controller

### Description

The CTL-S700 safety controller lifts safety to new heights! Especially developed for demanding tasks of mobile machines, the user is offered countless application possibilities.

The controller is ready for use in safety-critical applications and offers many interfaces and I/Os for safety-relevant machine control tasks.

With an IP66/67 protection rating, a robust aluminum cast housing and high shock- and vibration-resistance, CTL-S700 is perfectly equipped for use in harsh environments.

## Technical Specifications

CTL-S700 series						
<b>Processor</b>	Aurix TC299TX, 300 MHz, Tri-Core lockstep CPU, 32 bit					
<b>Flash</b>	8 MB, internal/ optionally 64 MB external					
<b>SRAM</b>	2.7 MB, internal					
<b>FRAM</b>	32 kB, external					
<b>Programming interface</b>	CoDeSys 3.5 SIL 2					
I/O and Interface	Variant	S701	S702	S703*	S704	S705
<b>Order #</b>		83902699	83902700	--	83902701	83902702
<b>Analog input</b> <ul style="list-style-type: none"> <li>• 12bit, accuracy &lt;1% FS in full temperature range.</li> <li>• Configurable via software to               <ul style="list-style-type: none"> <li>• 4...20mA</li> <li>• 0...10V</li> <li>• 0...32V</li> </ul> </li> </ul>	<b>Safety</b>	24	24	24	16	8
<b>Digital input</b> <ul style="list-style-type: none"> <li>• Configurable via software to               <ul style="list-style-type: none"> <li>• Digital input high-side</li> <li>• Digital input low-side</li> </ul> </li> </ul>	<b>Safety</b>	22	18	18	10	10
<b>Digital input HSC</b> <ul style="list-style-type: none"> <li>• Configurable via software to               <ul style="list-style-type: none"> <li>• Digital input high-side</li> <li>• Digital input low-side</li> <li>• Frequency input:                   <ul style="list-style-type: none"> <li>Pulse range 0.1Hz-15kHz</li> <li>Input voltage threshold 0.3V-4-5V</li> </ul> </li> </ul> </li> </ul>	<b>Non-safety</b>	12	12	12	8	8
<b>Digital input</b> <ul style="list-style-type: none"> <li>• Configurable via software to               <ul style="list-style-type: none"> <li>• Digital input high-side</li> <li>• Digital input low-side</li> <li>• Resistor input:                   <ul style="list-style-type: none"> <li>Input: 0-10kΩ</li> <li>Accuracy: ±2% FS in full temperature range</li> </ul> </li> </ul> </li> </ul>	<b>Non-safety</b>	6	6	6	4	4
<b>Digital output 4A@24V</b> <ul style="list-style-type: none"> <li>• Configurable via software to               <ul style="list-style-type: none"> <li>• High-side MOSFET</li> <li>• PWM</li> <li>Output frequency: 50-1000Hz</li> </ul> </li> </ul>	<b>Safety</b>	18	16	12	10	6
<b>Digital output 4A@24V</b> <ul style="list-style-type: none"> <li>• Configurable via software to               <ul style="list-style-type: none"> <li>• DO high-side MOSFET</li> <li>• PWM</li> <li>Output frequency: 50-1000Hz</li> <li>• Digital output with constant current</li> </ul> </li> </ul>	<b>Safety</b>	24	20	12	12	6

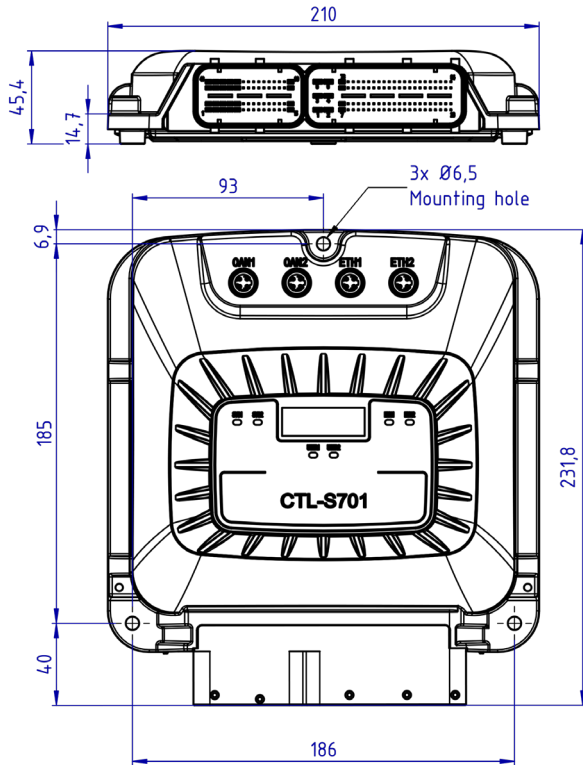
\*currently not available

## CTL-S700 series

	Variant	S701	S702	S703*	S704	S705
<b>Digital output 4A</b> <ul style="list-style-type: none"> <li>Configurable via software to               <ul style="list-style-type: none"> <li>DO high-side MOSFET</li> <li>PWMH (safety) Output frequency: 50-1000Hz</li> <li>DOCC (safety)</li> <li>H-Bridge (safety) Used for motor rotation</li> <li>DO low-side MOSFET (non-safety)</li> <li>PWML (non-safety)</li> </ul> </li> </ul>	<b>Safety</b>	12	8	6	6	4
<b>Relay output NO</b> <ul style="list-style-type: none"> <li>5A@24V</li> </ul>	<b>Safety</b>	2	2	2	2	2
<b>PVG output</b> <ul style="list-style-type: none"> <li>Configurable via software to               <ul style="list-style-type: none"> <li>PVG output: 10-90% of BAT+</li> <li>Voltage output: 0-100% of BAT+</li> <li>0...10V</li> <li>0...32V</li> </ul> </li> </ul>	<b>Non-Safety</b>	2	2	2	2	2
<b>Auxiliary power supply 5V/ 1A</b>	<b>Safety</b>	1	1	1	1	1
<b>Auxiliary power supply 10V/ 500mA</b>	<b>Safety</b>	1	1	1	1	1
<b>Parameter storage</b>	<b>Safety</b>	32kB	32kB	32kB	32kB	32kB
<b>Data logger</b>	<b>Non-Safety</b>	64 MB	-	-	-	-
<b>RTC</b>	<b>Non-Safety</b>	RTC	-	-	-	-
<b>CANopen Safety</b>	<b>Safety</b>	4	4	4	4	4
<b>Ethernet</b>	<b>Non-Safety</b>	2	2	1	2	1
<b>Environmental</b>						
<b>Operation temperature</b>	-40...+85°C					
<b>Storage temperature</b>	-40...+105°C					
<b>Power supply</b>	10...36 VDC					
<b>Protection class</b>	IP66/67					
<b>Shock</b>	EN 60068-27					
<b>Vibration</b>	EN 60068-6					
<b>Housing material</b>	Aluminum cast					
<b>Certification</b>						
<b>Safety performance level / Safety integrity level</b>	IEC/EN 61508 Parts 1-7:2015 SIL 2 EN ISO 13849:2015 PL d EN 62061:2005 + AC:2010 + A1:2013 + A2:2015 SILCL 2					
<b>CE marking</b>	EN 61000-4-2, EN 61000-4-4, EN 61000-4-5, EN 61000-6-2, EN 61000-6-7					

\*currently not available

## Dimensions: CTL-S701 and CTL-S702



## Dimensions: CTL-S704 and CTL-S705

