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TESTER
Advanced Model Checking for Safe and Reliable I&C Systems

In general

Verification and validation of I&C system implementations are essential not only for safety-critical applications, but also for standard industrial applications. These activities are inherently time-consuming and place high demands on accuracy and consistency of execution. Our TESTER significantly reduces testing time and minimizes the risk of human error, thereby contributing to increased efficiency and reliability of I&C system testing.

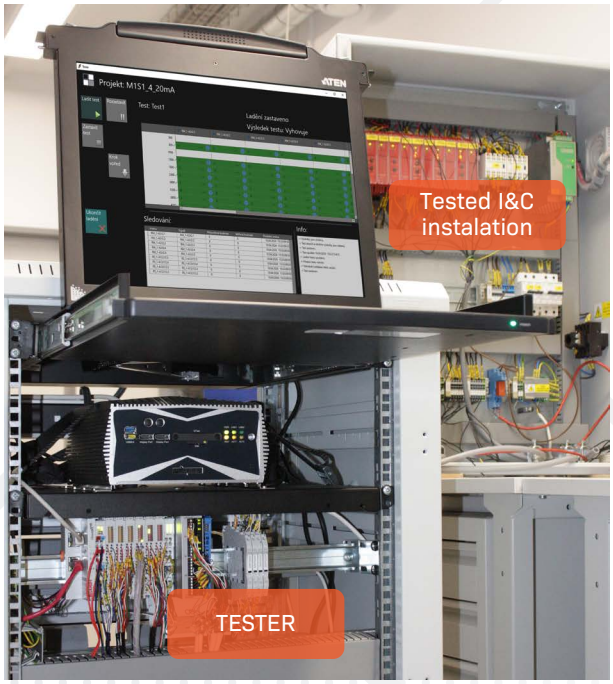
TESTER is device for automatic testing of I&C systems, with certification for using in nuclear power industry. TESTER is used to increase the efficiency of testing in production and installation and consequently to ensure higher safety of I&C systems. The device is divided into several switchboard cabinets, one MASTER cabinet and several SLAVE cabinets. The MASTER cabinet is the control cabinet of the device. The function of the SLAVE is to increase the number of signal inputs and outputs for testing.

MASTER + SLAVE1 + ... + SLAVEx

EtherCAT EtherCAT EtherCAT

Pros

- **Modularity.**
  - The MASTER cabinet can operate independently. For increasing the number of signal inputs and outputs for testing are connected SLAVE cabinets.
- **Configurability.**
  - Inputs and outputs signals can be set on current or voltage mode.
- **The device is mobile.**
- **The test sequence is programmed in EXCEL.**
- **Quick checking and data evaluating**
  One testing cycle is 5 ms.
- **Elimination of failures caused by manual testing.**
- **Easy debugging function.**
  - Step by step testing.
  - Function “Stop on failure”.
  - STOP point in test. Marking of step where test should stop and wait for release by operator.



Parameter	Conditions and notes		Type	Max.	Units
Power voltage	230 V		16		A
Bus cycle	This configuration		1		ms
MASTER					
EtherCAT Coupler for E-Bus- terminal			1		Pcs
digital input terminal 24 V DC, filter 10µs			160*		Pcs
digitaloutput terminal 24 V DC, 0.5 A			160*		Pcs
analog output terminal 0...24 mA, 12 bit			48*		Pcs
analog input, ±10...±1,25 V, ±20 mA, 24 Bit			8*		Pcs
SLAVE					
EtherCAT Coupler for E-Bus - terminal			1		Pcs
digital input terminal 24 V DC, filter 10µs			160*		Pcs
digital output terminal 24 V DC, 0.5 A			160*		Pcs
analog output terminal 0...24 mA, 12 bit			48*		Pcs
analog input, ±10...±1,25 V, ±20 mA, 24 Bit			24*		Pcs
Weight			100		kg
Dimension MASTER			600 x 800 x 1200		mm
SLAVE			600 x 600 x 1200		mm
Operating surrounding temperature		5	40		°C

*Number of inputs and outputs depended on customer requirements.

Tested in accordance to standards

EN 61439-2 – Low voltage switchboard, 2014/30/EU

	A	B	C	D	E	F	G	H	I
1		Signály							
2	Čas [ms]	IN1_STATE_P	IN1_STATE_N	IN2_STATE_P	IN2_STATE_N	IN3_STATE_P	IN3_STATE_N	IN4_STATE_P	IN4_STATE_N
3	0								
4	250	0	0	0	0	0	0	0	0
5	500								
6	750	1	0	0	0	0	0	0	0
7	1000								
8	1250	1	1	0	0	0	0	0	0
9	1500								
10	1750	1	1	1	0	0	0	0	0
11	2000								
12	2250	1	1	1	1	0	0	0	0
13	2500								
14	2750	1	1	1	1	1	0	0	0
15	3000								
16	3250	1	1	1	1	1	1	0	0
17	3500								
18	3750	1	1	1	1	1	1	1	0
19	4000								
20	4250	1	1	1	1	1	1	1	1
21	4500								
22	4750	1	1	1	1	1	1	1	1
23	5000								
24	5250	1	1	1	1	1	1	1	1
25	5500								
26	5750	1	1	1	1	1	1	1	1
27	6000								
28	6250	1	1	1	1	1	1	1	1
29	6500								
30	6750	1	1	1	1	1	1	1	1
31	7000								
32	7250	1	1	1	1	1	1	1	1
33	7500								
34	7750	1	1	1	1	1	1	1	1
35	8000								
36	8250	1	1	1	1	1	1	1	1
37	8500								
38	8750	1	1	1	1	1	1	1	1
39	9000								
40	9250	1	1	1	1	1	1	1	1
41	9500								
42	9750	0	1	1	1	1	1	1	1
43	10000								
44	10250	1	0	1	1	1	1	1	1
45	10500								
46	10750	1	1	0	1	1	1	1	1
47	11000								
48	11250	1	1	1	0	1	1	1	1

Automatically generated test protocols and reports.

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