# SIEMENS

# Acceptance log for ET 200S FC Failsafe

#### Overview

Acceptance test No.	
Date	
Person carrying-out	

Table 1-1 Machine description and overview/block diagram

Designation	
Туре	
Serial No.	
Manufacturer	
End customer	
Block/overview diagram of	the machine

Drive No. (refer to Table 1-3)	Slot ID	FW version	SI version	Safey function
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	
	p8455 =	r0018 =	r9770 =	

Table 1-2Safety functions for each drive

Drive No. (refer to Table 1-2)	Example: Wiring of the SH terminals (protective door, EMERGENCY STOP), grouping of
	the SH terminals, etc.

#### Table 1-3 Description of the safety equipment/devices

# **Function test**

#### Description

The function test must be carried-out separately for each individual drive (assuming that the machine permits this to be done.

#### Executing the test

First commissioning	Please mark	
Series commissioning		

# "Safe standstill" function (SH)

This test comprises the following steps:

Table 1-4	"Safe standstill"	function	(SH)
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No.	Description	Status
1.	<ul> <li>Initial state</li> <li>Drive in the "ready" state (p0010 = 0)</li> <li>Enable safety functions (p9601 / p9801 = 1 or 3)</li> <li>No safety faults and alarms</li> <li>r9772.0 = r9772.1 = 0 (SH de-selected and inactive)</li> <li>p9659 = time intervals for the forced checking procedure correctly set</li> </ul>	
2.	Operate the drive	
3.	Check that the expected drive operates	
4.	Select SH while issuing the command to operate	
5.	<ul> <li>Check the following:</li> <li>The drive coasts-down or is braked by the mechanical brake and held if a brake is being used and has also been parameterized</li> <li>No safety faults</li> <li>r9772.0 = r9772.1 = 1 (SH selected and active)</li> </ul>	
6.	De-select SH	
7.	Check the following: • No safety faults • r9772.0 = r9772.1 = 0 (SH de-selected and inactive)	
8.	Check that the expected drive is operated	
	<ul> <li>In so doing, the following is tested:</li> <li>That the wiring between the control unit and IPM25 converter power module is correct</li> <li>Correct assignment, drive No. – IPM25 power module – motor</li> <li>That the hardware is correctly functioning</li> <li>That the shutdown paths have been correctly wired</li> <li>Correct assignment of the SH terminals on the control unit</li> <li>Correct parameterization of the SH function</li> <li>Routine for the forced checking procedure of the shutdown paths</li> </ul>	

# "Safe braking ramp" function (SBR)

This test comprises the following steps:

Table 1-5"Safe braking ramp" function (SBR)

No.	Description	State
1.	<ul> <li>Initial state</li> <li>Drive in the "ready" state (p0010 = 0)</li> <li>Enable safety functions (p9601 / p9801 = 1 or 3)</li> <li>No safety faults and alarms</li> <li>r9772.0 = r9772.1 = 0 (SH de-selected and inactive)</li> <li>r9772.4 = r9772.5 = 0 (SG de-selected and inactive)</li> </ul>	
2.	Operate the drive	
3.	Check that the expected drive operates	
4.	Select SBR while issuing the traversing command	
5.	<ul> <li>Check the following:</li> <li>Drive speed decreases corresponding to the selected ramp time (if required, use a stop watch)</li> <li>After the parameterized minimum speed has been fallen below, the drive coasts-down or is braked and held by the mechanical brake if a brake is being used and has also been parameterized</li> <li>No safety faults</li> <li>r9772.0 = r9772.1 = 1 (SH selected and active)</li> <li>r9772.4 = 1 (SG selected)</li> <li>r9772.5 = 0 (SG not active)</li> </ul>	
6.	De-select SBR	
7.	Check the following: No safety faults r9772.0 = r9772.1 = 0 (SH de-selected and inactive) r9772.4 = r9772.5 = 0 (SG de-selected and inactive)	
8.	<ul> <li>Check that the expected drive operates</li> <li>In so doing the following is tested:</li> <li>The wiring between the control unit and IPM25 power module is correct</li> <li>Correct assignment, drive No. – IPM25 converter power module – motor</li> <li>Correct functioning of the hardware</li> <li>Correct wiring of the shutdown paths</li> <li>Correct assignment, SH terminals on the control unit</li> <li>Correct parameterization of the SBR function</li> </ul>	

# "Safely-reduced speed" function (SG)

This test comprises the following steps:

Table 1-6 "Safely-reduced speed" function (SG)

No.	Description	State
1.	<ul> <li>Initial state</li> <li>Drive in the "ready" state (p0010 = 0)</li> <li>Enable safety functions (p9601 / p9801 = 1 or 3)</li> <li>No safety faults and alarms</li> <li>r9772.4 = r9772.5 = 0 (SG de-selected and inactive)</li> </ul>	
2.	Operate the drive (if the machine permits it, at a higher speed than the parameterized safely-reduced speed)	
3.	Check that the expected drive operates	
4.	Select SG while issuing the traversing command	
5.	<ul> <li>Check the following:</li> <li>Drive speed decreases corresponding to the selected ramp time (if required, use a stop watch)</li> <li>After the parameterized safely-reduced speed has been fallen below, the speed remains below this limit</li> <li>No safety faults</li> <li>r9772.4 = r9772.5 = 1 (SG selected and active)</li> </ul>	
6.	De-select SG	
7.	Check the following: o No safety faults o r9772.4 = r9772.5 = 0 (SG de-selected and inactive)	
8.	<ul> <li>Check that the expected drive operates</li> <li>In so doing the following is tested:</li> <li>The wiring between the control unit and IPM25 power module is correct</li> <li>Correct assignment, drive No. – IPM25 converter power module – motor</li> <li>Correct functioning of the hardware</li> <li>Correct wiring of the shutdown paths</li> <li>Correct parameterization of the SG function</li> </ul>	

# Completing the log

# Safety-related parameters

	Specified value checked?			
	Yes No			
Control unit				

#### Checksums

Drive		Checksums		
Name	Drive No.	Control unit (r9798)	Control unit (r9898)	

#### Note

The checksum values must be entered as follows:

- Value from r9798 in p9799
- Value from r9898 in p9899

# Data back-up/archiving

	Memory medium			Saved where
	Туре	Designation	Date	
Parameters				
PLC program				
Circuit diagrams				

# Signatures

#### **Commissioning engineer**

Confirms that the above listed tests and checks have been correctly carried-out.

Date	Name	Company / department	Signature

#### Machinery construction OEM

Confirms the correctness of the parameterization documented above.

Date	Name	Company / department	Signature