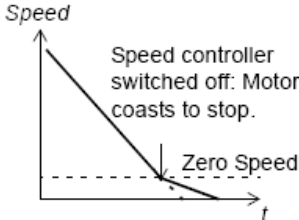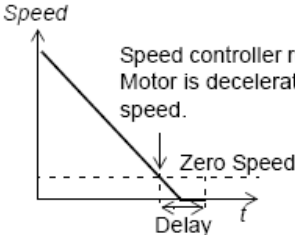This supplement covers additional features in ACS550 drives having firmware version 3.11a, or higher until the next revision of the User Manual. The ACS550 firmware version 3311 hex can be determined by selecting parameter 3301. To take full advantage of these new features requires an Operator Panel (ACS-CP-A) version W, or higher. The Operator Panel version is embedded in the center of the Serial Number (S/N) on the back of the panel.

The new features and changes which are not yet updated in the manual have labels: <u>NEW</u> (= new feature), or <u>CHANGE</u> (= changed feature), or <u>DELETED</u> (= deleted feature).

NEW PARAMETERS

Code	Description
Group 1: Operating Data	
0101	**SPEED & DIR** The calculated speed of the motor (rpm) & motor direction
0151	**INPUT KWH (R)** The drives accumulated input power consumption in kilowatt hours. This value can be reset to zero by pressing the UP and DOWN buttons simultaneously when in the parameter set mode.
0152	**INPUT MWH** The drives accumulated input power consumption in megawatt hours. This value cannot be reset.
0158	**PID COMM VALUE 1** Data received from fieldbus for PID control (PID 1 and PID2).
0159	**PID COMM VALUE 2** Data received from fieldbus for PID control (PID 1 and PID2).
Group 10: Start/Stop/Dir	
1004	**JOGGING SEL** Defines the signal that activates the jogging function. Jogging uses Constant Speed 7 for speed reference and ramp pair 2 for accelerating and decelerating. When the jogging activation signal is lost, the drive uses ramp stop to decelerate to zero speed, even if coast stop is used in normal operation (parameter 2102). The jogging status can be parameterized to relay outputs (parameter 1401). The jogging status is also seen in DCU Profile status bit 21. 0 = NOT SEL. Disables the jogging function. 1 = DI1. Activates/de-activates jogging based on the state of DI1 (DI1 activated = jogging active; DI1 de-activated = jogging inactive). 2…6 = DI2.DI6. Activates jogging based on the state of the selected digital input. See DI1 above. -1 = DI1 (INV). Activates jogging based on the state of DI1 (DI1 activated = jogging inactive; DI1 de-activated = jogging active). -2...-6 = DI2 (INV).DI6 (INV) . Activates jogging based on the state of the selected digital input. See DI1 (INV) above.
Group 11: Reference Select	
1103	**REF1 SELECT** 20 = KEYPAD (RNC) – Defines the control panel as the reference source. A Stop command resets the reference to zero (R stands for reset.). Changing the control source (EXT1 to EXT2, EXT2 to EXT1) does not copy the reference. 21 = KEYPAD (NC) – Defines the control panel as the reference source. A Stop command does not reset the reference to zero. The reference is stored. Changing the control source (EXT1 to EXT2, EXT2 to EXT1) does not copy the reference.
Group 14: Relay Outputs	
1401	**RELAY OUTPUT 1** 46 = START DELAY. Energize relay when a start delay is active. 52 = JOG ACTIVE. Energize relay when the jogging function is active.

Group 16: System Controls	
1611	**PARAMETER VIEW** Selects the parameter view, i.e. which parameters are shown. **Note:** This parameter is visible only when it is activated by the optional FlashDrop device. FlashDrop allows fast customization of the parameter list, e.g. selected parameters can be hidden. For more information, see *MFDT-01 FlashDrop User's Manual* [3AFE68591074 (English)]. FlashDrop parameter values are activated by setting parameter 9902 to 31 (LOAD FD SET). 0 = DEFAULT – Complete long and short parameter lists are shown. 1 = FLASHDROP – FlashDrop parameter list is shown. Does not include short parameter list. Parameters that are hidden by the FlashDrop device are not visible.
Group 21: Start/Stop	
2112	**ZERO SPEED DELAY** Defines the delay for the Zero Speed Delay function. If parameter value is set to zero, Zero Speed Delay function is disabled. The function is useful in applications where a smooth and quick restarting is essential. During the delay the drive knows accurately the rotor position. Zero speed delay can be used e.g. with jogging function or mechanical brake. **No Zero Speed Delay** The drive receives a stop command and decelerates along a ramp. When the motor actual speed falls below an internal limit (called Zero Speed), the speed controller is switched off. The drive modulation is stopped and the motor coasts to standstill. **With Zero Speed Delay** The drive receives a stop command and decelerates along a ramp. When the actual motor speed falls below an internal limit (called Zero Speed), the zero speed delay function activates. During the delay the functions keeps the speed controller live: The drive modulates, motor is magnetized and drive is ready for a quick restart.
2113	**START DELAY** Defines the Start delay. After the conditions for start have been fulfilled, the drive waits until the delay has elapsed and then starts the motor. Start delay can be used with all start modes. • If START DELAY = zero, the delay is disabled.
Group 26: Motor Control	
2619	**DC STABILIZER** Enables or disables the DC voltage stabilizer. The DC stabilizer is used in scalar control mode to prevent possible voltage oscillations in the drive DC bus caused by motor load or weak supply network. In case of voltage variation the drive tunes the frequency reference to stabilize the DC bus voltage and therefore the load torque oscillation. 0 = DISABLE – Disables DC stabilizer. 1 = ENABLE – Enables DC stabilizer.
Group 33: Information	
3305	**PARAMETER TABLE** Contains the parameter table version of the drive's firmware

	Group 37: User Load Curve
	This new group defines supervision of user adjustable load curves (motor torque as a function of frequency). The curve is defined by five points. - The function replaces deleted underload parameters 3013…3015
3701	**USER LOAD C MODE** Supervision mode for the user adjustable load curves. This functionality replaces the former underload supervision in *Group 30: FAULT FUNCTIONS*. 0 = NOT SEL – Supervision is not active. 1 = UNDERLOAD – Supervision for the torque dropping below the underload curve. 2 = OVERLOAD – Supervision for the torque exceeding the overload curve. 3 = BOTH – Supervision for the torque dropping below the underload curve or exceeding the overload curve.
3702	**USER LOAD C FUNC** Action wanted during load supervision. 1 = FAULT – A fault is generated when the condition defined by 3701 USER LOAD C MODE has been valid longer than the time set by 3703 USER LOAD C TIME. 2 = ALARM – An alarm is generated when the condition defined by 3701 USER LOAD C MODE has been valid longer than half of the time defined by 3703 USER LOAD C TIME.
3703	**USER LOAD C TIME** Defines the time limit for generating a fault. Half of this time is used as the limit for generating an alarm.
3704	**LOAD FREQ 1** Defines the frequency value of the first curve definition point. Must be smaller than 3707 LOAD FREQ 2.
3705	**LOAD TORQ LOW 1** Defines the torque value of the first underload curve definition point. Must be smaller than 3706 LOAD TORQ HIGH 1.
3706	**LOAD TORQ HIGH 1** Defines the torque value of the first overload curve definition point.
3707	**LOAD FREQ 2** Defines the frequency value of the second curve definition point. Must be smaller than 3710 LOAD FREQ 3.
3708	**LOAD TORQ LOW 2** Defines the torque value of the second underload curve definition point. Must be smaller than 3709 LOAD TORQ HIGH 2.
3709	**LOAD TORQ HIGH 2** Defines the torque value of the second overload curve definition point.
3710	**LOAD FREQ 3** Defines the frequency value of the third load curve definition point.
3711	**LOAD TORQ LOW 3** Defines the torque value of the third underload curve definition point. Must be smaller than 3712 LOAD TORQ HIGH 3.
3712	**LOAD TORQ HIGH 3** Defines the torque value of the third overload curve definition point.
3713	**LOAD FREQ 4** Defines the frequency value of the fourth load curve definition point.
3714	**LOAD TORQ LOW 4** Defines the torque value of the fourth underload curve definition point. Must be smaller than 3715 LOAD TORQ HIGH 4.
3715	**LOAD TORQ HIGH 4** Defines the torque overvalue of the fourth load curve definition point.
3716	**LOAD FREQ 5** Defines the frequency value of fifth load curve definition point.
3717	**LOAD TORQ LOW 5**

		Defines the torque value of the fifth underload curve definition point. Must be smaller than 3718
3718	**LOAD TORQ HIGH 5**	
	Defines the torque value of the fifth overload curve definition point.	
Group 40: Process PID SET 1		
4010	**SET POINT SEL**	
	20 = PID2OUT – Defines PID controller 2 output (parameter 0127 PID 2 OUTPUT) as the reference source.	
4014	**FBK SEL**	
	11 = COMM FBK 1 – Signal 0158 PID COMM VALUE 1 provides the feedback signal. 12 = COMM FBK 2 – Signal 0159 PID COMM VALUE 2 provides the feedback signal. 13 = AVE(ACT1,2) – The average of ACT1 and ACT2 provides the feedback signal.	
4016	**ACT1 INPUT**	
	6 = COMM ACT 1 – Uses value of signal 0158 PID COMM VALUE 1 for ACT1. 7 = COMM ACT 2 – Uses value of signal 0159 PID COMM VALUE 2 for ACT1.	
4017	**ACT2 INPUT**	
	6 = COMM ACT 1 – Uses value of signal 0158 PID COMM VALUE 1 for ACT2. 7 = COMM ACT 2 – Uses value of signal 0159 PID COMM VALUE 2 for ACT2.	
4027	**PID 1 PARAM SET**	
	12 = 2-ZONE MIN – The drive calculates the difference between setpoint 1 and feedback 1 as well as setpoint 2 and feedback 2. The drive will control the zone (and select the set) which has a larger difference. • A positive difference (a setpoint higher than the feedback) is always larger than a negative difference. This keeps feedback values at or above the setpoint. • Controller does not react to the situation of feedback above setpoint if another zone's feedback is closer to its setpoint. 13 = 2-ZONE MAX – The drive calculates the difference between setpoint 1 and feedback 1 as well as setpoint 2 and feedback 2. The drive will control the zone (and select the set) which has a smaller difference. • A negative difference (a setpoint lower than the feedback) is always smaller than a positive difference. This keeps feedback values at or below the setpoint. • Controller does not react to the situation of feedback below setpoint if another zone's feedback is closer to its setpoint. 14 = 2-ZONE AVE – The drive calculates the difference between setpoint 1 and feedback 1 as well as setpoint 2 and feedback 2. In addition, it calculates the average of the deviations, and uses it to control zone 1. Therefore one feedback is kept above its setpoint and another is kept as much below its setpoint.	
Group 51: Ext Comm Moduule		
5127	**FBA PAR REFRESH**	
	Validates any changed fieldbus parameter settings. 0 = DONE – Refreshing done. 1 = REFRESH – Refreshing. • After refreshing, the value reverts automatically to DONE.	
Group 81: PFA		
8118	**AUTOCHNG INTERV**	
	-0.1 = TEST MODE – Forces the interval to value 36…48 s.	
Group 99: Start-up Data		
9902	**APPLIC MACRO**	
	31 = LOAD FD SET – FlashDrop parameter values as defined by the FlashDrop file. Parameter view is selected by parameter 1611 PARAMETER VIEW.	

CHANGED PARAMETERS

2101	**START FUNCTION**
	1 = AUTO – Selects automatic start mode
	        Vector control modes: Optimal start in most cases. The drive automatically selects the correct output
	        frequency to start a rotating motor.
	        Scalar: Speed mode: Changed to (8) ramp to start.
	8 = RAMP – Selects ramp start mode
	        Vector control modes: Uses FLYSTART routine excluding the stator resistance
	        Scalar: Speed mode: Immediate start from zero frequency.

9901	**LANGUAGE** Selects the display language. There are three different Assistant Control Panels, each supporting a different language set based on regional needs. The Region 1 ACS-CP-A is standard. Assistant Control Panel ACS-CP-A (Region 1): 0 = ENGLISH 1 = ENGLISH (AM) 2 = DEUTSCH 3 = ITALIANO 4 = ESPAÑOL 5 = PORTUGUES 6 = NEDERLANDS 7 = FRANÇAIS 8 = DANSK 9 = SUOMI 10 = SVENSKA Assistant Control Panel ACS-CP-L (Region 2): 0 = ENGLISH 2 = DEUTSCH 11 = RUSSKI 12 = POLSKI 13 = TÜRKÇE 14 = CZECH Assistant Control Panel ACS-CP-D (Asia): 0 = ENGLISH 1 = CHINESE 2 = KOREAN

DELETED PARAMETERS

New group 37 USER LOAD CURVE replaces the deleted underload parameters.

3013	**UNDERLOAD FUNCTION**
3014	**UNDERLOAD TIME**
3015	**UNDERLOAD CURVE**

NEW 380…480V Drive Ratings

Ratings

Type Code	Normal Use			Heavy-Duty Use			Frame Size
ACS550-U1- See Below	**I₂N A**	**Pₙ kW**	**Pₙ HP**	**I₂hd A**	**Phd kW**	**Phd HP**	
Three-phase supply voltage, 380…480V							
-045A-4	44	22.0	30	38	18.5	25	R3
-097A-4	96	45.0	75	77	37	60	R4
-125A-4	124	55.0	100	96	45	75	R5

Group 37: UNDERLOAD CURVE POINTS

CURVE 1		
Frequency point [Hz]		**Torque low limit [%]**
EU	US	
1 5	6	10
2 32	38	17
3 41	50	23
4 50	60	30
5 500	500	30

CURVE 4		
Frequency point [Hz]		**Torque low limit [%]**
EU	US	
1 5	6	10
2 73	88	17
3 98	117	23
4 120	144	30
5 500	500	30

CURVE 2		
Frequency point [Hz]		**Torque low limit [%]**
EU	US	
1 5	6	20
2 31	37	30
3 42	50	40
4 50	60	50
5 500	500	50

CURVE 5		
Frequency point [Hz]		**Torque low limit [%]**
EU	US	
1 5	6	20
2 71	86	30
3 99	119	40
4 120	144	50
5 500	500	50

CURVE 3		
Frequency point [Hz]		**Torque low limit [%]**
EU	US	
1 5	6	30
2 31	37	43
3 42	50	57
4 50	60	70
5 500	500	70

Group 37: Underload curve points

Legend:
- Curve 1 EU
- Curve 1 US
- Curve 2 EU
- Curve 2 US
- Curve 3 EU
- Curve 3 US
- Curve 4 EU
- Curve 4 US
- Curve 5 EU
- Curve 5 US

[Hz]

[%]

ABB