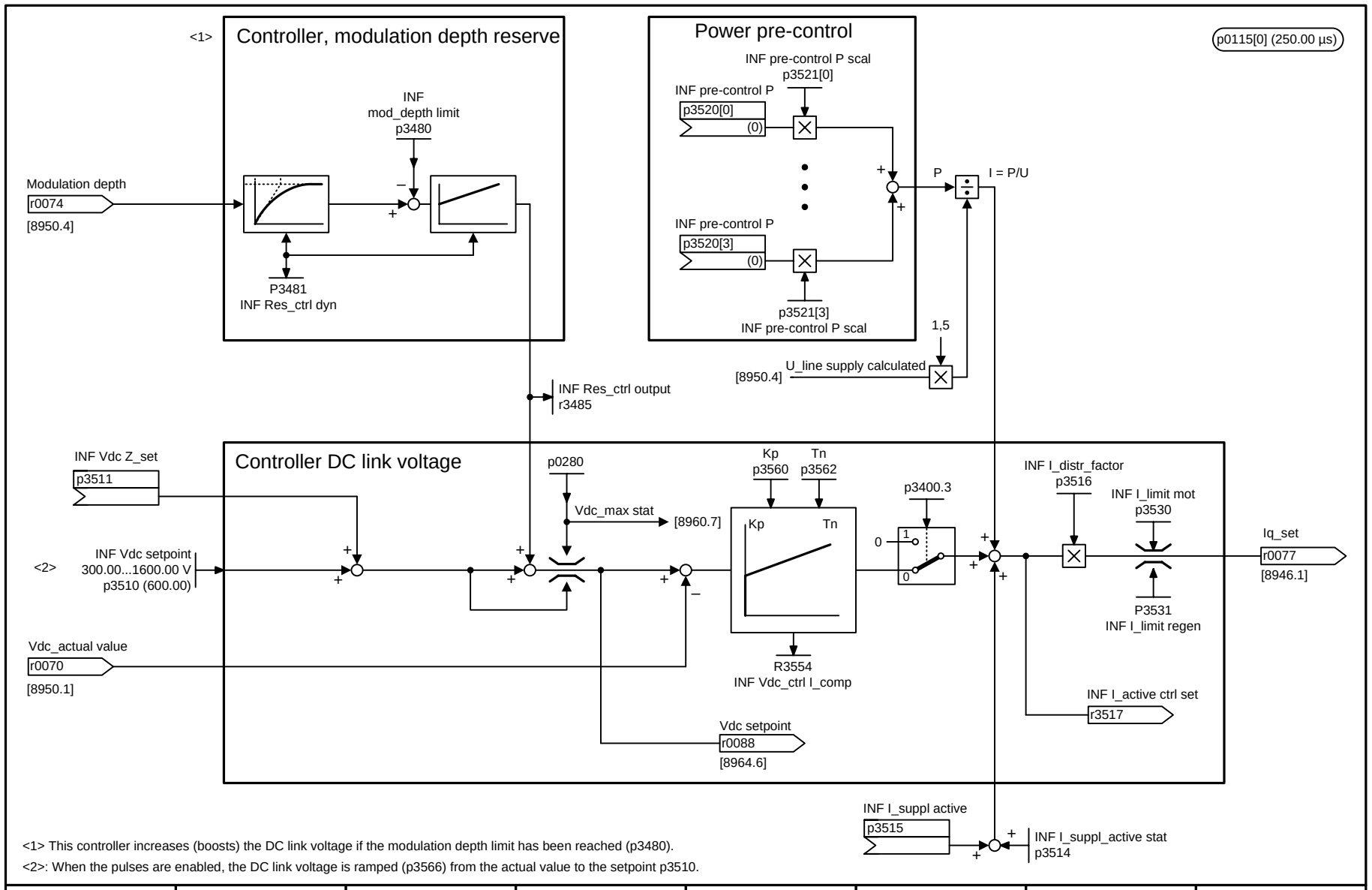

<1> This controller increases (boosts) the DC link voltage if the modulation depth limit has been reached (p3480).
<2>: When the pulses are enabled, the DC link voltage is ramped (p3566) from the actual value to the setpoint p3510.

1	2	3	4	5	6	7	8
DO: A_INF					fp_8940_01_eng.vsd	Function diagram	- 8940 -
Active infeed - controller modulation depth reserve/controller DC link voltage (p3400.0 = 0)					03.02.06 V02.04.00	SINAMICS S	

Figure 2-214 8940 – Controller control factor reserve/controller DC link voltage (p3400.0 = 0)

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SINAMICS S List Manual, 03/2006 Edition

How to Set an ALM Into Active Mode on Line volts > 415V (US Supply)

When using Sinamics Active infeed modules , they can run in one of 2 modes . Smart and Active . Smart mode is basic uncontrolled front end operation (similar to diode bridge) and Active mode is full control (power dip ride though , DC link voltage selection , e.t.c)

When you select a line supply voltage greater than 415V (P210) the unit will automatically change itself from Active mode , to Smart mode . This means you will loose all the benefits of running Active mode . To force the unit back into Active mode the following parameters must be set , after the initial configuration has been made and a circuit identification has been performed :-

1) **Select access level 3 (right mouse click in the ALM expert list and select the access level)**
2) **Set P10 = 2 (Power module commissioning)**
3) **P210 = 415 (Set the line voltage to 415 to force the unit to go back to Active mode)**
4) **P211 = 60 Hz (Supply frequency)**
5) **P280 = 715 (Max DC Voltage – This can be set lower if required ,but should be > P3510)**
6) **P210 = 460 (Line supply volts – At this point you will get an error message saying the parameter is rejected , however the value will still get entered)**
7) **P3510 = 680 (Required DC link Voltage .May be set in the range of 1.41 to 1.6 * P210)**
8) **P10 = 0 (Ready)**

You can now check the status of the ALM mode on parameter P3400i0 .To confirm the unit is in Active mode , this should be at 0 and P3400 = AH

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2) Setting an ALM to Active Mode:
By default, when an ALM is supplied 3 phase voltage > 415V, the ALM works in Smart Line mode. The following are the parameters in the ALM and Motor Modules that can be changed in order to set the ALM to Active mode.
Before this is done, the motors used must be verified for operation in a 700 V system. Possible sources for this verification can be Germany or Martin Gertz.

Parameters ALM:

Voltage	Mode ALM	Vdc_max: p280	Supply Voltage: p210	INF Vdc Setp: p3510	Active Mode On: p3400	Vdc U_lower threshold r296
400VAC	Standard	660	400	600	10	360
415VAC	Standard	660	415	625	10	360
440VAC	possible	700	440	660	10	374
460VAC	possible	730	460	690	10	391
480VAC	possible	730	480	720	10	408

p0210	Supply Voltage
p0280	Vdc_max
p3510	Vdc_setpoint
p3400.0 / .3	Active_Mode

Parameters Motor-Module:

Voltage	Mode ALM	P210	p1244	p1248
400VAC	Standard	600	750	450
415VAC	Standard	625	750	450
440VAC	possible	650	750	480
460VAC	possible	650	765	480
480VAC	possible	650	765	500

P210	Drive unit line supply voltage
P1244	DC link voltage threshold, upper
P1248	DC link voltage threshold, lower