ASPC Project

END CUSTOMER	:	**Arya Sasol Polymer Company**
CONTRACTOR	:	**DYPNF Co., Ltd.**
VENDOR NAME	:	**Airpack Netherlands BV**
EQUIPMENT DESCRIPTION	:	**Screw Compressor & Roots Blower Package**
PURCHASE ORDER NUMBER	:	**PO-PC2312-08**

Customer Document Number : 3944-VD-0171-DYP-RE-400-DIA-0083

Airpack Document Number : 23383-32

Document Title : Logic diagram

Review Code and Status		Contractor Initials/Signature	Date signed
☐ **Code 1**	**REJECTED** - Vendor to revise and Resubmit. Work cannot proceed		
☐ **Code 2**	Comments As Noted - Work May proceed, subject to compliance with and incorporation of comments		
☐ **Code 3**	No Comments - Work may proceed.		
☐ **Code 4**	Information only - Review not required.		

01	Issued for Approval	19-12-2025	OG	SC	JJ
00	Issued for Approval	01-10-2025	AZ	SC	JJ
Rev. No.	Description	Date	Prepared by	Checked by	Approved by

300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY
(ASPC)

LOGIC DIAGRAMS

(Rev.00)

2025. 09. 30

DRAWING LIST (1)

SHEET NO. (3944-VD-0171-DYP-RE-400-DIA-0083)	DWG TITLE	REV.	REMARKS
001	LOGIC SYMBOL 1	01	
002	LOGIC SYMBOL 2	01	
010	44C-40001A/B INSTRUMENT	01	
011	44C-40001A/B INSTRUMENT	01	
012	44C-40001A/B ALARMS AND TRIPS	01	
013	44C-40001A/B ALARMS AND TRIPS	01	
014	44C-40001A/B START AND STOP	01	
015	44C-40001A/B RUNNING	01	
016	44C-40001A/B MOTOR START AND STOP	01	
017	44C-40001A/B TRIP TO MOTOR	01	
020	44C-80001A/B;44C-80005A/B/C INSTRUMENT	01	
021	44C-80001A/B;44C-80005A/B/C INSTRUMENT	01	
022	44C-80001A/B;44C-80005A/B/C ALARMS AND TRIPS	01	
023	44C-80001A/B;44C-80005A/B/C ALARMS AND TRIPS	01	
024	44C-80001A/B;44C-80005A/B/C START AND STOP	01	
025	44C-80001A/B;44C-80005A/B/C RUNNING	01	
026	44C-80001A/B;44C-80005A/B/C MOTOR START AND STOP	01	
027	44C-80001A/B;44C-80005A/B/C TRIP TO MOTOR	01	
030	44C-80004A/B INSTRUMENT	01	
031	44C-80004A/B INSTRUMENT	01	
032	44C-80004A/B ALARMS AND TRIPS	01	
033	44C-80004A/B ALARMS AND TRIPS	01	
034	44C-80004A/B START AND STOP	01	
035	44C-80004A/B RUNNING	01	
036	44C-80004A/B MOTOR START AND STOP	01	
037	44C-80004A/B TRIP TO MOTOR	01	

NOTE

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	00A	REV. NO	01

DRAWING LIST (2)

SHEET NO. (3944-VD-0171-DYP-RE-400-DIA-0083)	DWG TITLE	REV.	REMARKS
040	44C-80004A/B INSTRUMENT	01	
041	44C-80004A/B INSTRUMENT	01	
042	44C-80004A/B ALARMS AND TRIPS	01	
043	44C-80004A/B ALARMS AND TRIPS	01	
044	44C-80004A/B START AND STOP	01	
045	44C-80004A/B RUNNING	01	
046	44C-80004A/B MOTOR START AND STOP	01	
047	44C-80004A/B TRIP TO MOTOR	01	

NOTE

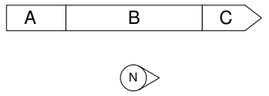
LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	00B	REV. NO	01

LOGIC SYMBOL 1

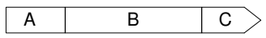
INPUT NAVIGATION



A : Output Serial No.
B : Output Logic No.
C : Output Sheet No.

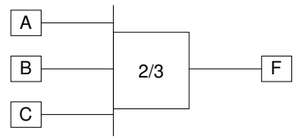
From / To (at Same Sheet)

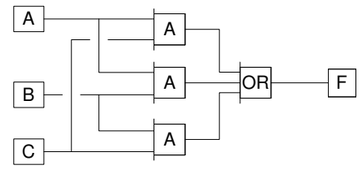
OUTPUT NAVIGATION



A : Input Serial No.
B : Input Logic No.
C : Input Sheet No.

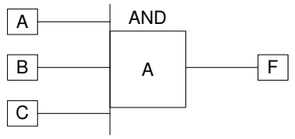
2 OUT OF 3 VOTING





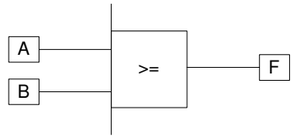
Output "F" exists when any TWO (2) of the three input exists

AND



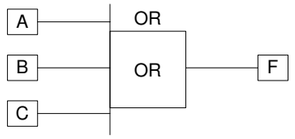
Output "F" exists
only while inputs "A" and "B" and "C"
exist simultaneously.

GREATER THAN EQUAL TO



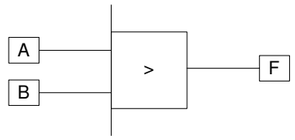
Output "F" exists
whenever inputs "A" is greater than
or equal to "B"

OR



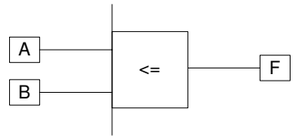
Output "F" exists
whenever inputs
"A" or "B" or "C" exists.

GREATER THAN



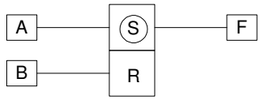
Output "F" exists
whenever inputs "A" is greater than "B"

LESS THAN EQUAL TO



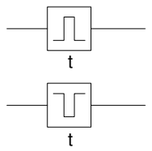
Output "F" exists
whenever inputs "A" is less than
or equal to "B"

SR FLIP-FLOP (Set Dominant)



S : Set Memory (Set Emergency Reset)
R : Reset Memory
Output "F" exists as soon as input "A" exist.
"F" continues to exist
regardless of the subsequent state of "A"
until the memory is reset
i.e., terminated by input "B" existing.
"F" remains terminated regardless of the
subsequent state of "B"
until "A" causes the memory to be set.
The circle denotes that input "A"
Emergencys input "B" if both inputs exist
simultaneously.

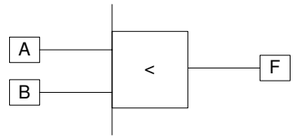
PULSE



Positive Pulse Output : "A"
Pulse(i.e. 1) generate when
input change from 0 to 1.

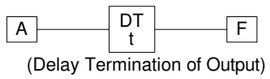
Negative Pulse Output : "A"
Pulse(i.e. 0) generate when
input change from 1 to 0.

LESS THAN



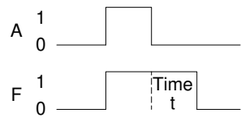
Output "F" exists
whenever inputs "A" is less than "B"

TIME ELEMENT

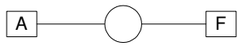


(Delay Termination of Output)

The existence of input "A"
causes output "F" to exist immediately.
Output "F" terminates when input "A" has
terminated and has not again
existed for time t.

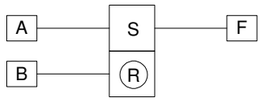


INVERT

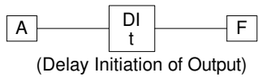


Output "F" exist
whenever inputs "A" does not exist.
Output "F" does not exist
when input "A" exist.

RS FLIP-FLOP (Reset Dominant)

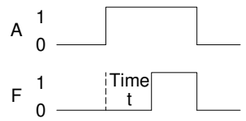


S : Set Memory
R : Reset Memory (Reset Emergency Set)
Output "F" exists as soon as input "A" exist.
"F" continues to exist
regardless of the subsequent state of "A"
until the memory is reset
i.e., terminated by input "B" existing.
"F" remains terminated regardless of the
subsequent state of "B"
until "A" causes the memory to be set.
The circle denotes that input "B"
Emergencys input "A" if both inputs exist
simultaneously.

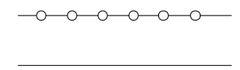


(Delay Initiation of Output)

The continuous existence of
input "A" for time t causes
output "F" to exist when t expires.
Output "F" terminates when
input "A" terminates.



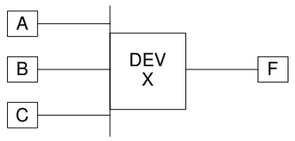
Communication Link Between DCS & Other System



Communication

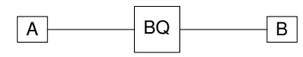
Hard Wiring

DEVIATION



Output "F" exists
whenever inputs
"A" or "B" or "C" deviates from
each other than "X".
X=Deviation Limit

SIGNAL BAD QUALITY



Output "B" is true if the field input signal "A" is
less than or greater than the setpoint value.

NOTE

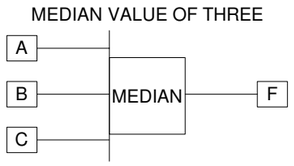
LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

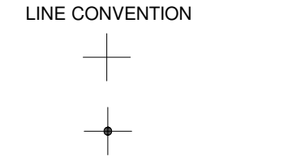
DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	001	REV. NO	01

LOGIC SYMBOL 2

Square Root Function

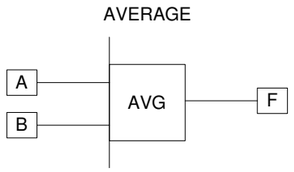


Output "F" is median value of input "A", "B" and "C"

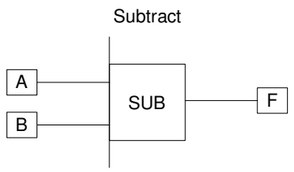


Line cross-over without connection

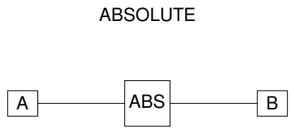
Line cross-over with connection



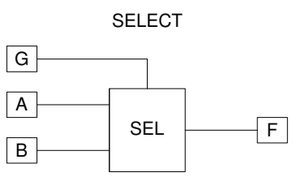
Output "F" is average value of inputs "A" and "B"



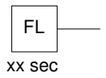
Output "F" = Input "A" - Input "B"



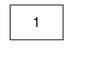
Output "F" is the absolute value of input "A"



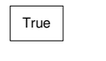
If Input "G" = Off, Output "F" = Input "A"
If Input "G" = On, Output "F" = Input "B"



Logic output exists periodically when logic power is energized

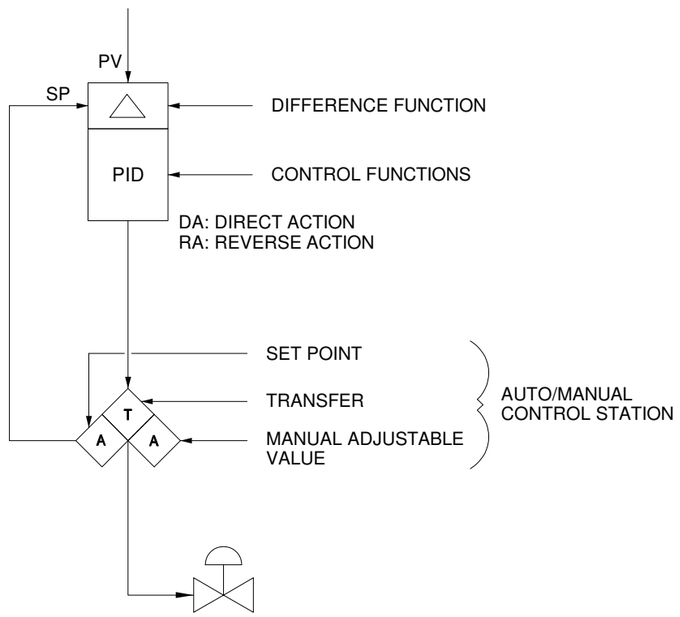


Constant Value (0~)



Always 1 (True)

Always 0 (False)



Local Field Instrument

Instrument on Panel or Console In Central Control Room

Instrument on Local Panel

Distribution Control System (DCS) Function In Central Control Room

Non-Displayed DCS Function
* Identifies Function if Required

Instrument Connected to PLC For Sequential Logic. Not Implemented in DCS

Instrument Connected to PLC in Field For Sequential Logic. Not Implemented in DCS

Local Indication Lamp

Aux Indication Lamp

Local Field Panel Indication Lamp

Solenoid Valve

Motor Control Center

DCS Logic

ESD Logic

PLC Logic

ABBREVIATION

-LOCATION
F -FIELD
DCS -DISTRIBUTED CONTROL SYSTEM
MCC -MOTOR CONTROL CENTER
LCP -LOCAL PUSHBUTTON STATION
UCP -UNIT CONTROL PANEL

NOTE

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	002	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	INSTRUMENT	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44PT-4001003	44C-40001A NITROGEN COMPRESSOR INLET PRESSURE	FIELD	4~20 mA	-1~1 bar(g)		1 : TRIP 0 : NORMAL	DCS	44PT-4001003-FLT	SENSOR FAULT
						-1~1 bar(g)	DCS	44PI-4001003	44C-40001A NITROGEN COMPRESSOR INLET PRESSURE
				-0.047 bar(g) LL SP		1 : TRIP 0 : NORMAL	DCS	44PSALL-4001003	PRESSURE LOW LOW ALARM
				0.013 bar(g) L SP		1 : ALARM 0 : NORMAL	DCS	44PSAL-4001003	PRESSURE LOW ALARM
44PT-4001054	44C-40001A NITROGEN COMPRESSOR OIL PRESSURE	FIELD	4~20 mA	-1~5 bar(g)		1 : TRIP 0 : NORMAL	DCS	44PT-4001054-FLT	SENSOR FAULT
						-1~5 bar(g)	DCS	44PI-4001054	44C-40001A NITROGEN COMPRESSOR OIL PRESSURE
				1.8 bar(g) LL SP		1 : TRIP 0 : NORMAL	DCS	44PSALL-4001054	PRESSURE LOW LOW ALARM
				1.9 bar(g) L SP		1 : ALARM 0 : NORMAL	DCS	44PSAL-4001054	PRESSURE LOW ALARM
44PT-4001011	44C-40001A NITROGEN COMPRESSOR OUTLET PRESSURE	FIELD	4~20 mA	-1~5 bar(g)		1 : TRIP 0 : NORMAL	DCS	44PT-4001011-FLT	SENSOR FAULT
						-1~5 bar(g)	DCS	44PI-4001011	44C-40001A NITROGEN COMPRESSOR OUTLET PRESSURE
				2.003 bar(g) HH SP		1 : TRIP 0 : NORMAL	DCS	44PSAHH-4001011	PRESSURE HIGH HIGH ALARM
				2.153 bar(g) H SP		1 : ALARM 0 : NORMAL	DCS	44PSAH-4001011	PRESSURE HIGH ALARM

NOTE

1. This logic diagram provides the detailed operation of nitrogen compressor 44C-40001A. Nitrogen compressor 44C-40001B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	010	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	INSTRUMENT	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44TT-4001056	44C-40001A NITROGEN COMPRESSOR OIL TEMPERATURE	FIELD	4~20 mA	-50~300 °C BQ 44TT-4001056-FLT - - 012 -50~300 °C 100 °C HH SP HIGH HIGH ALARM 44TSAHH-4001056 - - 012 90 °C H SP HIGH ALARM 44TSAH-4001056 - - 012		1 : TRIP 0 : NORMAL	DCS	44TT-4001056-FLT	SENSOR FAULT
						-50~300 °C	DCS	44TI-4001056	44C-40001A NITROGEN COMPRESSOR OIL TEMPERATURE
						1 : TRIP 0 : NORMAL	DCS	44TSAHH-4001056	PRESSURE HIGH HIGH ALARM
						1 : ALARM 0 : NORMAL	DCS	44TSAH-4001056	PRESSURE HIGH ALARM
44TT-4001057	44C-40001A NITROGEN COMPRESSOR OUTLET TEMPERATURE	FIELD	4~20 mA	-50~300 °C BQ 44TT-4001057-FLT - - 012 -50~300 °C 204 °C HH SP HIGH HIGH ALARM 44TSAHH-4001057 - - 012 199 °C H SP HIGH ALARM 44TSAH-4001057 - - 012		1 : TRIP 0 : NORMAL	DCS	44TT-4001057-FLT	SENSOR FAULT
						-50~300 °C	DCS	44TI-4001057	44C-40001A NITROGEN COMPRESSOR OUTLET TEMPERATURE
						1 : TRIP 0 : NORMAL	DCS	44TSAHH-4001057	PRESSURE HIGH HIGH ALARM
						1 : ALARM 0 : NORMAL	DCS	44TSAH-4001057	PRESSURE HIGH ALARM
44TT-4001001	44C-40001A NITROGEN COMPRESSOR ENCLOSURE TEMPERATURE	FIELD	4~20 mA	0~100 °C BQ 44TT-4001001-FLT - - 012 0~100 °C TBD °C H SP HIGH ALARM 44TSAH-4001001 - - 012		1 : ALARM 0 : NORMAL	DCS	44TT-4001001-FLT	SENSOR FAULT
						0~100 °C	DCS	44TI-4001001	44C-40001A NITROGEN COMPRESSOR ENCLOSURE TEMPERATURE
						1 : ALARM 0 : NORMAL	DCS	44TSAH-4001001	TEMPERATURE HIGH ALARM

NOTE

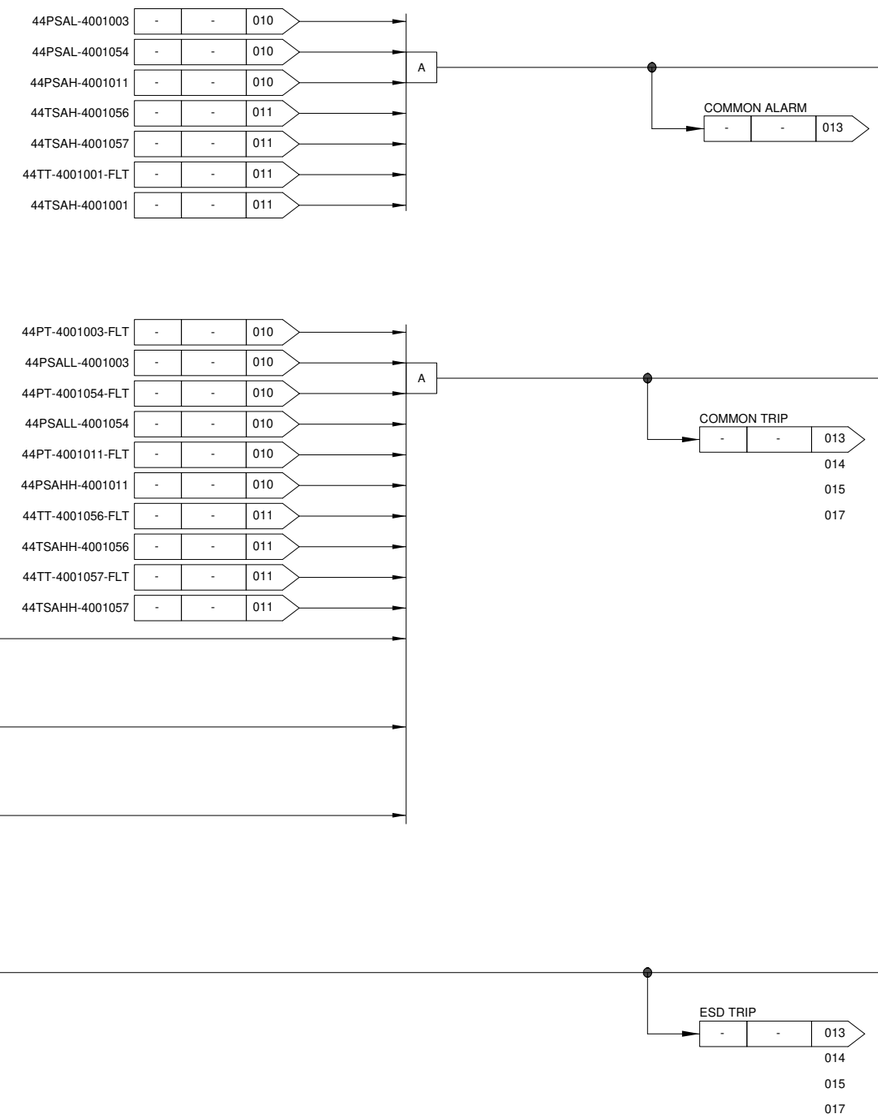
1. This logic diagram provides the detailed operation of nitrogen compressor 44C-40001A. Nitrogen compressor 44C-40001B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	011	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	ALARMS AND TRIPS (1)	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44Y-4001010	44C-40001A NITROGEN COMPRESSOR MAIN MOTOR FAULT	MCC	1: NORMAL 0: TRIP						
44Y-4001011	44C-40001A NITROGEN COMPRESSOR OIL DEMISTER MOTOR FAULT	MCC	1: NORMAL 0: TRIP						
44Y-4001012	44C-40001A NITROGEN COMPRESSOR VENTILATION FAN MOTOR FAULT	MCC	1: NORMAL 0: TRIP						
-	ESD SIGNAL	DCS	1: NORMAL 0: TRIP						



OUTPUT				
SYMBOL	STATUS	LOC	TAG NO.	SERVICE
	1 : NORMAL 0 : ALARM	DCS	-	44C-40001A NITROGEN COMPRESSOR COMMON ALARM
	1 : NORMAL 0 : TRIP	DCS	-	44C-40001A NITROGEN COMPRESSOR COMMON TRIP
	1 : NORMAL 0 : TRIP	DCS	-	44C-40001A NITROGEN COMPRESSOR ESD TRIP

NOTE

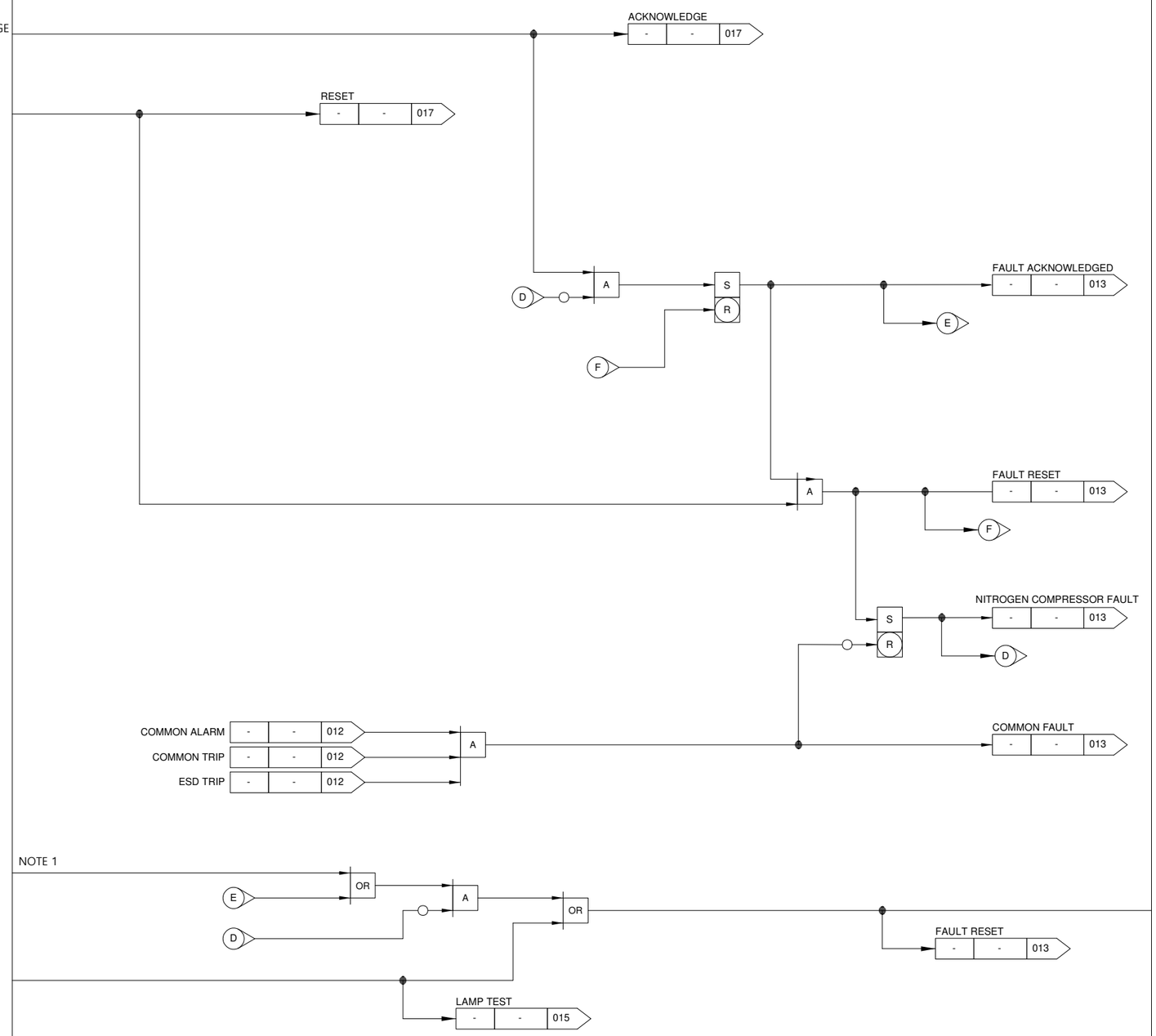
1. This logic diagram provides the detailed operation of nitrogen compressor 44C-40001A. Nitrogen compressor 44C-40001B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	012	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	ALARMS AND TRIPS (2)	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
-	ACKNOWLEDGE BUTTON	DCS	1: ACKNOWLEDGE 0: NONE						
-	RESET BUTTON	DCS	1: RESET 0: NONE						
-	1 Hz CLOCK PULSE	DCS	-			1 : ON 0 : OFF	44LCP-4001010	44XI-4001002	44C-40001A NITROGEN COMPRESSOR FAULT LAMP
44PB-4001003	44C-40001A NITROGEN COMPRESSOR LAMP TEST PUSHBUTTON	44LCP-4001010	1: LAMP ON 0: NONE						



NOTE

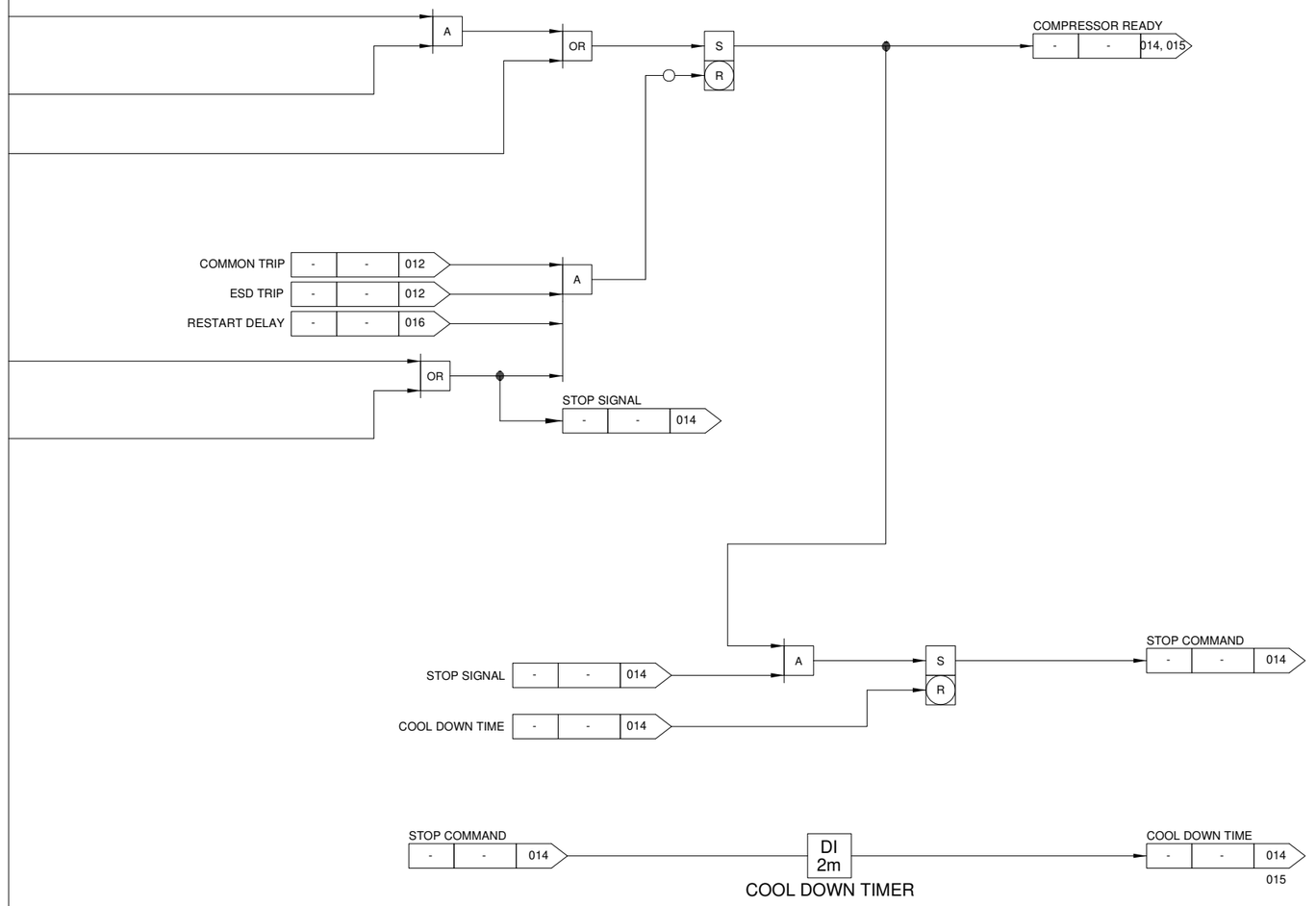
1. Continuously repeating 1 Hz clock pulse (commonly generated internally by PLC CPU) - 0,5 seconds TRUE, 0,5 seconds FALSE.
2. This logic diagram provides the detailed operation of nitrogen compressor 44C-40001A. Nitrogen compressor 44C-40001B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	013	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	START AND STOP	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44PB-4001001	44C-40001A NITROGEN COMPRESSOR START PUSHBUTTON	44LCP-4001010	1: START 0: NONE						
-	DCS LOCAL START ENABLED	DCS	1: ENABLE 0: NONE						
-	DCS START	DCS	1: START 0: NONE						
44PB-4001002	44C-40001A NITROGEN COMPRESSOR STOP PUSHBUTTON	44LCP-4001010	1: NONE 0: STOP						
-	DCS STOP	DCS	1: NONE 0: STOP						



NOTE

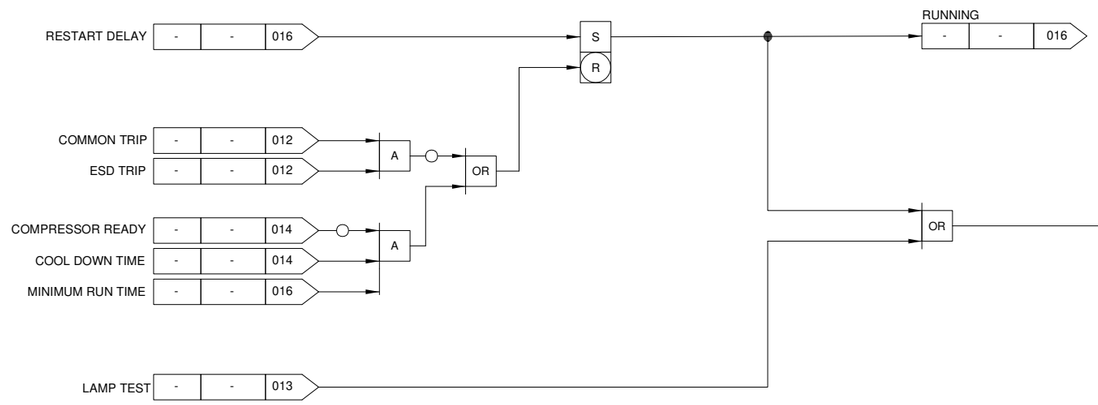
1. This logic diagram provides the detailed operation of nitrogen compressor 44C-40001A. Nitrogen compressor 44C-40001B works the same. Only tag numbers need to be changed accordingly.

2. To initiate planned shutdown the 'compressor stop' button on LPS needs to be pushed to receive stop signal or 'compressor stop' signal from DCS via need to be received and minimum run timer should not be active (After initial start to protect the motor by preventing more than 3 starts per hour, duration: 20 minutes). During the planned shut down, cool down starts and main motor and enclosure fan motor (after 2 min.) will be stopped.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	014	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	RUNNING	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
						1 : ON 0 : OFF	44LCP-4001010	44XI-4001001	44C-40001A NITROGEN COMPRESSOR RUNNING LAMP

NOTE

1. This logic diagram provides the detailed operation of nitrogen compressor 44C-40001A. Nitrogen compressor 44C-40001B works the same. Only tag numbers need to be changed accordingly.

2. To initiate planned shutdown the 'compressor stop' button on LPS needs to be pushed to receive stop signal or 'compressor stop' signal from DCS via need to be received and minimum run timer should not be active (After initial start to protect the motor by preventing more than 3 starts per hour, duration: 20 minutes). During the planned shut down, cool down starts and main motor and enclosure fan motor (after 2 min.) will be stopped.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	015	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	MOTOR START/STOP	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
				RUNNING - - 015	M	1 : START 0 : STOP	MCC	44YHS-4001012	44C-40001A NITROGEN COMPRESSOR VENTILATION FAN MOTOR START/STOP
-	44C-40001A NITROGEN COMPRESSOR VENTILATION FAN MOTOR RUNNING FEEDBACK	MCC	1: RUNNING 0: NOT RUNNING	DI 2s OIL DEMISTER MOTOR DELAY	M	1 : START 0 : STOP	MCC	44YHS-4001011	44C-40001A NITROGEN COMPRESSOR OIL DEMISTER MOTOR START/STOP
-	44C-40001A NITROGEN COMPRESSOR OIL DEMISTER MOTOR RUNNING FEEDBACK	MCC	1: RUNNING 0: NOT RUNNING	DI 2s MAIN MOTOR DELAY	M	1 : START 0 : STOP	MCC	44YHS-4001010	44C-40001A NITROGEN COMPRESSOR MAIN MOTOR START/STOP
-	44C-40001A NITROGEN COMPRESSOR MAIN MOTOR RUNNING FEEDBACK	MCC	1: RUNNING 0: NOT RUNNING	DI 60s RESTART DELAY TIMER RESTART DELAY - - 014 / 015 DI 20m MINIMUM RUN TIMER MINIMUM RUN TIME - - 015					

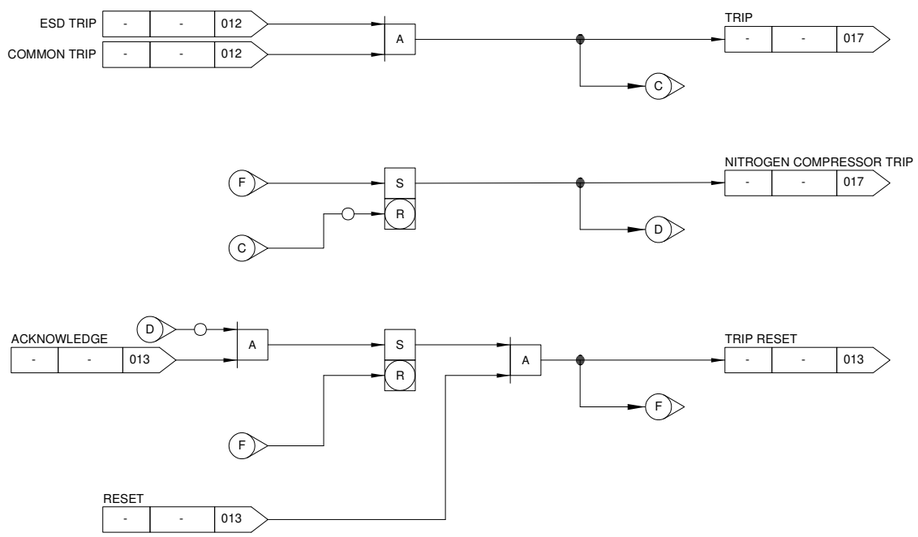
NOTE

1. This logic diagram provides the detailed operation of nitrogen compressor 44C-40001A. Nitrogen compressor 44C-40001B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	016	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	TRIP TO MOTOR	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
					M	1 : NORMAL 0 : TRIP	MCC	-	TRIP TO MAIN MOTOR
					M	1 : NORMAL 0 : TRIP	MCC	-	TRIP TO OIL DEMISTER MOTOR
					M	1 : NORMAL 0 : TRIP	MCC	-	TRIP TO VENTILATION FAN MOTOR

NOTE

1. This logic diagram provides the detailed operation of nitrogen compressor 44C-40001A. Nitrogen compressor 44C-40001B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	017	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	INSTRUMENT	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44PT-8004001	44C-80001A AIR COMPRESSOR INLET PRESSURE	FIELD	4~20 mA	-1~1 bar(g)		1 : TRIP 0 : NORMAL	DCS	44PT-8004001-FLT	SENSOR FAULT
						-1~1 bar(g)	DCS	44PI-8004001	44C-80001A AIR COMPRESSOR INLET PRESSURE
				-0.097 bar(g) LL SP; LOW LOW ALARM		1 : TRIP 0 : NORMAL	DCS	44PSALL-8004001	PRESSURE LOW LOW ALARM
				-0.037 bar(g) L SP; LOW ALARM		1 : ALARM 0 : NORMAL	DCS	44PSAL-8004001	PRESSURE LOW ALARM
44PT-8004041	44C-80001A AIR COMPRESSOR OIL PRESSURE	FIELD	4~20 mA	-1~5 bar(g)		1 : TRIP 0 : NORMAL	DCS	44PT-8004041-FLT	SENSOR FAULT
						-1~5 bar(g)	DCS	44PI-8004041	44C-80001A AIR COMPRESSOR OIL PRESSURE
				1.8 bar(g) LL SP; LOW LOW ALARM		1 : TRIP 0 : NORMAL	DCS	44PSALL-8004041	PRESSURE LOW LOW ALARM
				1.9 bar(g) L SP; LOW ALARM		1 : ALARM 0 : NORMAL	DCS	44PSAL-8004041	PRESSURE LOW ALARM
44PT-8004002	44C-80001A AIR COMPRESSOR OUTLET PRESSURE	FIELD	4~20 mA	-1~5 bar(g)		1 : TRIP 0 : NORMAL	DCS	44PT-8004002-FLT	SENSOR FAULT
						-1~5 bar(g)	DCS	44PI-8004002	44C-80001A AIR COMPRESSOR OUTLET PRESSURE
				1.723 bar(g) HH SP; HIGH HIGH ALARM		1 : TRIP 0 : NORMAL	DCS	44PSAHH-8004002	PRESSURE HIGH HIGH ALARM
				1.573 bar(g) H SP; HIGH ALARM		1 : ALARM 0 : NORMAL	DCS	44PSAH-8004002	PRESSURE HIGH ALARM

NOTE

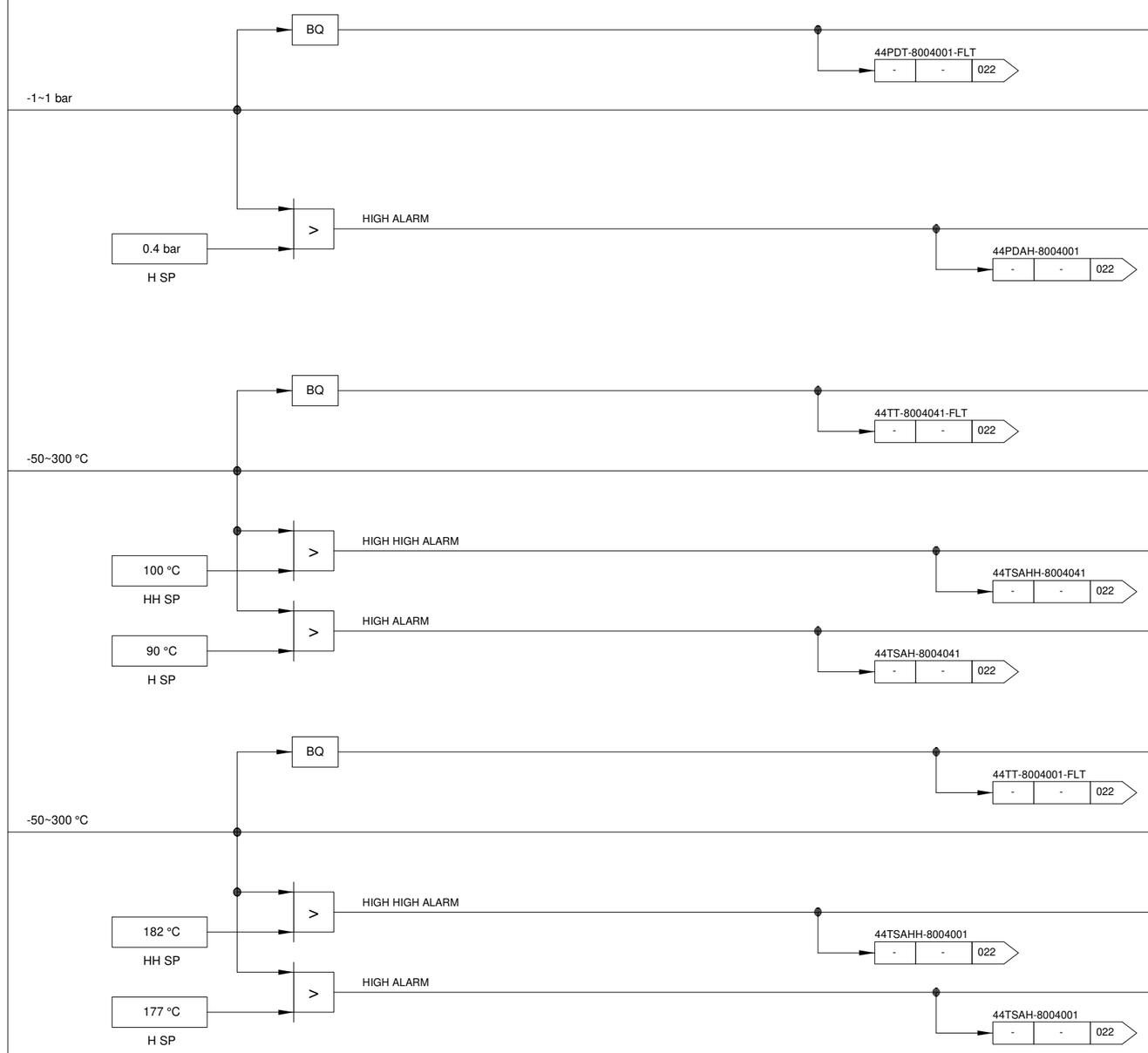
1. This logic diagram provides the detailed operation of air compressor 44C-80001A. Air compressor 44C-80001B and 44C-80005A/B/C works the same. Only tag numbers need to be changed accordingly.
2. For compressor 44C-80005A/B/C, outlet pressure transmitter has the HH SP at 1.673 bar(g), and H SP at 1.523 bar(g).

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	020	REV. NO	01

INPUT				OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44PDT-8004001	44C-80001A AIR COMPRESSOR INLET FILTER DIFFERENTIAL PRESSURE	FIELD	4~20 mA		1 : ALARM 0 : NORMAL	DCS	44PDT-8004001-FLT	SENSOR FAULT
					0~100 °C	DCS	44PDI-8004001	44C-80001A AIR COMPRESSOR INLET FILTER DIFFERENTIAL PRESSURE
					1 : ALARM 0 : NORMAL	DCS	44PDAH-8004001	DIFFERENTIAL PRESSURE HIGH ALARM
44TT-8004041	44C-80001A AIR COMPRESSOR OIL TEMPERATURE	FIELD	4~20 mA		1 : TRIP 0 : NORMAL	DCS	44TT-8004041-FLT	SENSOR FAULT
					-50~300 °C	DCS	44TI-8004041	44C-80001A AIR COMPRESSOR OIL TEMPERATURE
					1 : TRIP 0 : NORMAL	DCS	44TSAHH-8004041	PRESSURE HIGH HIGH ALARM
					1 : ALARM 0 : NORMAL	DCS	44TSAH-8004041	PRESSURE HIGH ALARM
44TT-8004001	44C-80001A AIR COMPRESSOR OUTLET TEMPERATURE	FIELD	4~20 mA		1 : TRIP 0 : NORMAL	DCS	44TT-8004001-FLT	SENSOR FAULT
					-50~300 °C	DCS	44TI-8004001	44C-80001A AIR COMPRESSOR OUTLET TEMPERATURE
					1 : TRIP 0 : NORMAL	DCS	44TSAHH-8004001	PRESSURE HIGH HIGH ALARM
					1 : ALARM 0 : NORMAL	DCS	44TSAH-8004001	PRESSURE HIGH ALARM



NOTE

1. This logic diagram provides the detailed operation of air compressor 44C-80001A. Air compressor 44C-80001B and 44C-80005A/B/C works the same. Only tag numbers need to be changed accordingly.
2. For compressor 44C-80005A/B/C, outlet temperature transmitter has the HH SP at 179 °C, and H SP at 174 °C.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	021	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	ALARMS AND TRIPS (1)	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44Y-8004011	44C-80001A AIR COMPRESSOR MAIN MOTOR FAULT	MCC	1: NORMAL 0: TRIP	44PSAL-8004001 - - 020 44PSAL-8004041 - - 020 44PSAH-8004002 - - 020 44PDT-8004001-FLT - - 021 44PDAH-8004001 - - 021 44TSAH-8004041 - - 021 44TSAH-8004001 - - 021 → A → COMMON ALARM - - 023		1 : NORMAL 0 : ALARM	DCS	-	44C-80001A AIR COMPRESSOR COMMON ALARM
44Y-8004012	44C-80001A AIR COMPRESSOR OIL DEMISTER MOTOR FAULT	MCC	1: NORMAL 0: TRIP	44PT-8004001-FLT - - 020 44PSALL-8004001 - - 020 44PT-8004041-FLT - - 020 44PSALL-8004041 - - 020 44PT-8004002-FLT - - 020 44PSAHH-8004002 - - 020 44TT-8004041-FLT - - 021 44TSAHH-8004041 - - 021 44TT-8004001-FLT - - 021 44TSAHH-8004001 - - 021 → A → COMMON TRIP - - 023 024 025 027		1 : NORMAL 0 : TRIP	DCS	-	44C-80001A AIR COMPRESSOR COMMON TRIP
44Y-8004013	44C-80001A AIR COMPRESSOR VENTILATION FAN MOTOR FAULT	MCC	1: NORMAL 0: TRIP						
-	ESD SIGNAL	DCS	1: NORMAL 0: TRIP	→ ESD TRIP - - 023 024 025 027		1 : NORMAL 0 : TRIP	DCS	-	44C-80001A AIR COMPRESSOR ESD TRIP

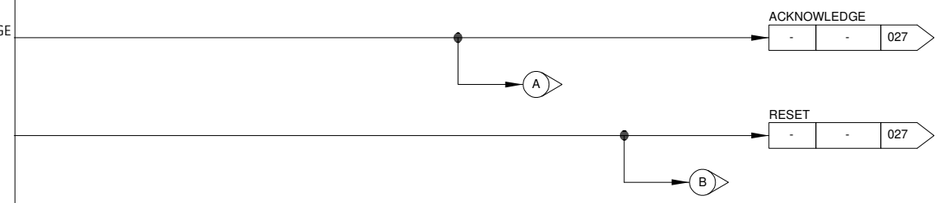
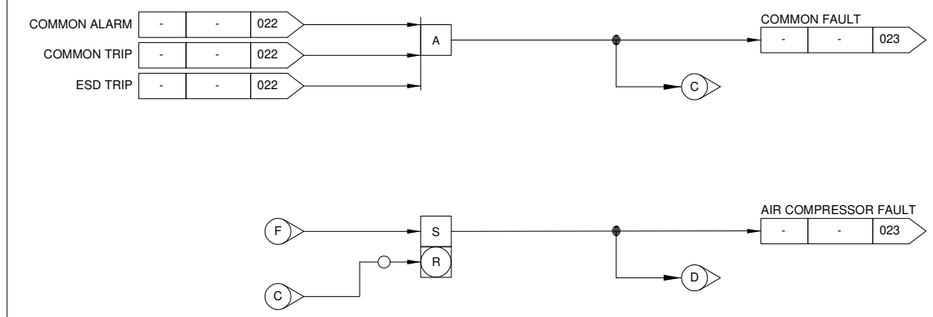
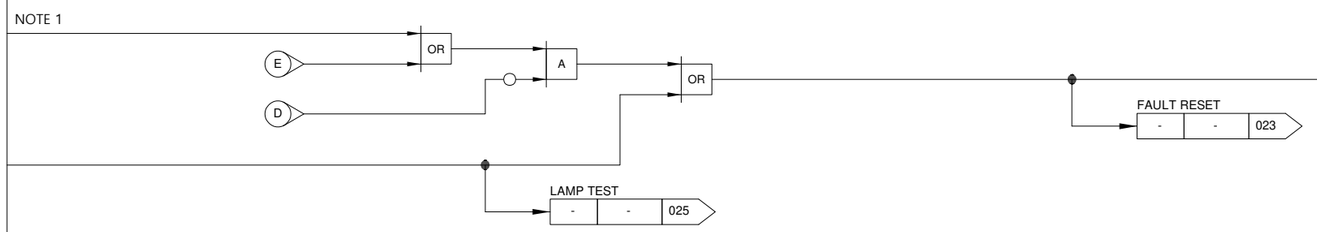
NOTE

1. This logic diagram provides the detailed operation of air compressor 44C-80001A. Air compressor 44C-80001B and 44C-80005A/B/C works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	022	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	ALARMS AND TRIPS (2)	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
-	ACKNOWLEDGE BUTTON	DCS	1: ACKNOWLEDGE 0: NONE						
-	RESET BUTTON	DCS	1: RESET 0: NONE						
									
-	1 Hz CLOCK PULSE	DCS	-			1 : ON 0 : OFF	44LCP- 8004011	44XI-8004002	44C-80001A AIR COMPRESSOR FAULT LAMP
44PB-8004003	44C-80001A AIR COMPRESSOR LAMP TEST PUSHBUTTON	44LCP- 8004011	1: LAMP ON 0: NONE						

NOTE

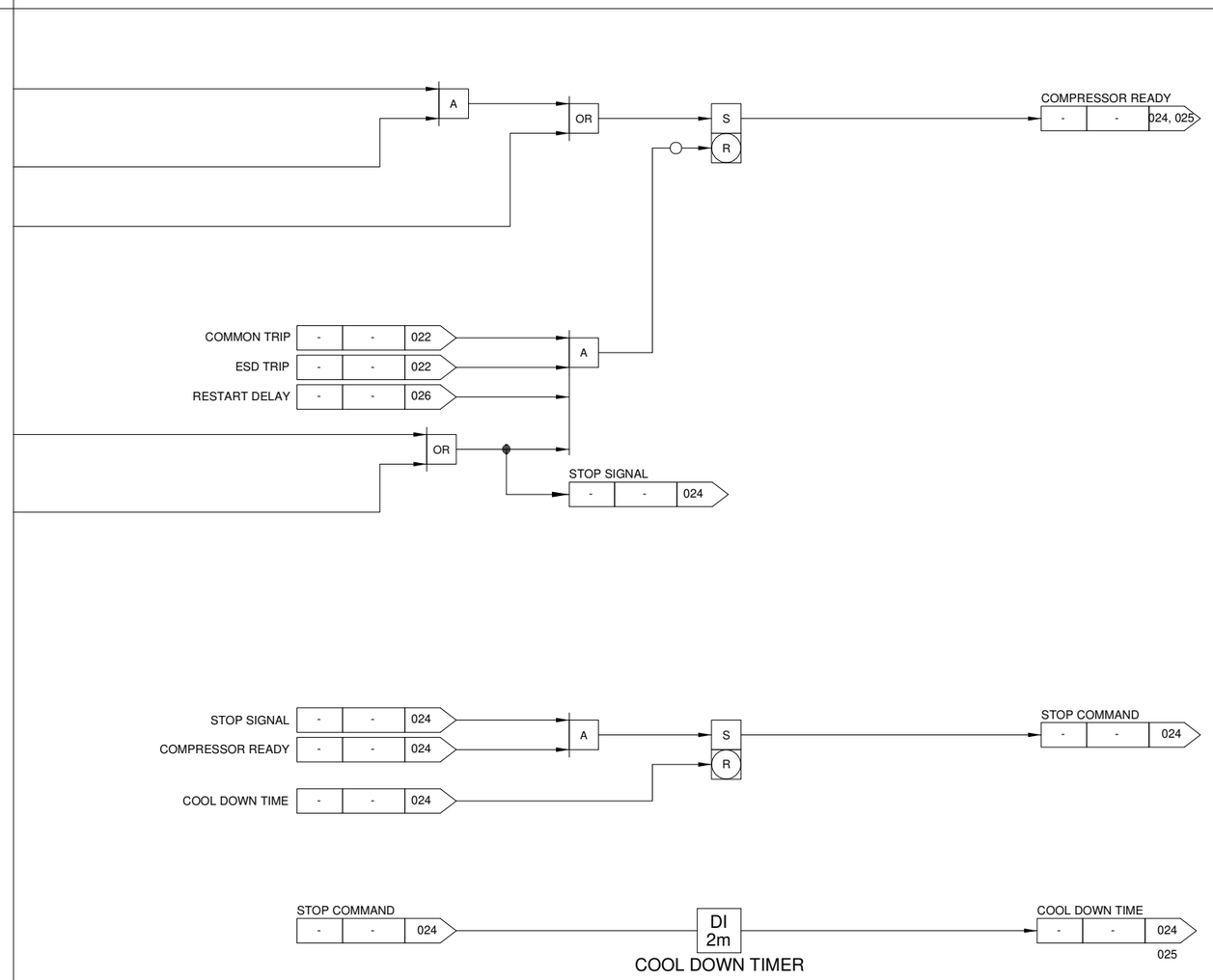
1. Continuously repeating 1 Hz clock pulse (commonly generated internally by PLC CPU) - 0,5 seconds TRUE, 0,5 seconds FALSE.
2. This logic diagram provides the detailed operation of air compressor 44C-80001A. Air compressor 44C-80001B and 44C-80005A/B/C works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	023	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	START AND STOP	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44PB-8004001	44C-80001A AIR COMPRESSOR START PUSHBUTTON	44LCP-8004011	1: START 0: NONE						
-	DCS LOCAL START ENABLED	DCS	1: ENABLE 0: NONE						
-	DCS START	DCS	1: START 0: NONE						
44PB-8004002	44C-80001A AIR COMPRESSOR STOP PUSHBUTTON	44LCP-8004011	1: NONE 0: STOP						
-	DCS STOP	DCS	1: NONE 0: STOP						



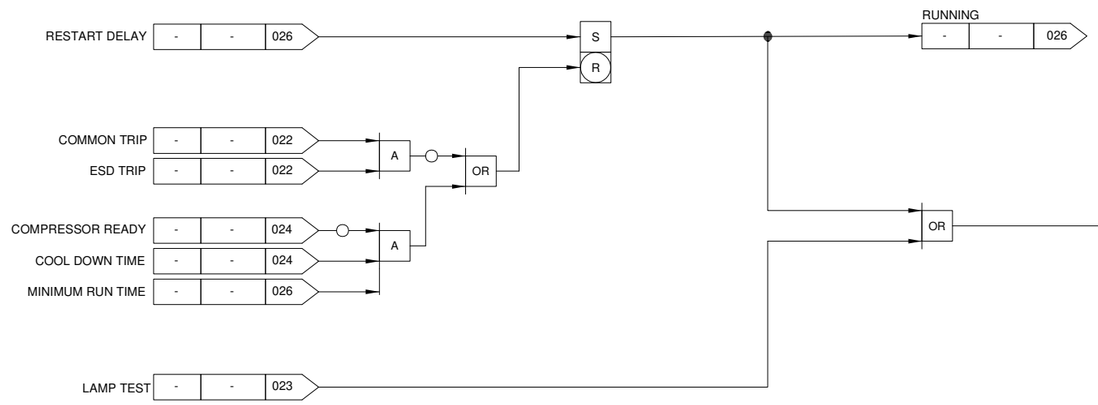
NOTE

1. This logic diagram provides the detailed operation of air compressor 44C-80001A. Air compressor 44C-80001B and 44C-80005A/B/C works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	024	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	RUNNING	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
						1 : ON 0 : OFF	44LCP- 8004011	44XI-8004001	44C-80001A AIR COMPRESSOR RUNNING LAMP

NOTE

1. This logic diagram provides the detailed operation of air compressor 44C-80001A. Air compressor 44C-80001B and 44C-80005A/B/C works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	025	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	MOTOR START/STOP	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
				RUNNING - - 025	M	1 : START 0 : STOP	MCC	44YHS-8004013	44C-80001A AIR COMPRESSOR VENTILATION FAN MOTOR START/STOP
-	44C-80001A AIR COMPRESSOR VENTILATION FAN MOTOR RUNNING FEEDBACK	MCC	1: RUNNING 0: NOT RUNNING	DI 2s OIL DEMISTER MOTOR DELAY	M	1 : START 0 : STOP	MCC	44YHS-8004012	44C-80001A AIR COMPRESSOR OIL DEMISTER MOTOR START/STOP
-	44C-80001A AIR COMPRESSOR OIL DEMISTER MOTOR RUNNING FEEDBACK	MCC	1: RUNNING 0: NOT RUNNING	DI 2s MAIN MOTOR DELAY	M	1 : START 0 : STOP	MCC	44YHS-8004011	44C-80001A AIR COMPRESSOR MAIN MOTOR START/STOP
-	44C-80001A AIR COMPRESSOR MAIN MOTOR RUNNING FEEDBACK	MCC	1: RUNNING 0: NOT RUNNING	DI 60s RESTART DELAY TIMER RESTART DELAY - - 024 / 025 DI 20m MINIMUM RUN TIMER MINIMUM RUN TIME - - 025					

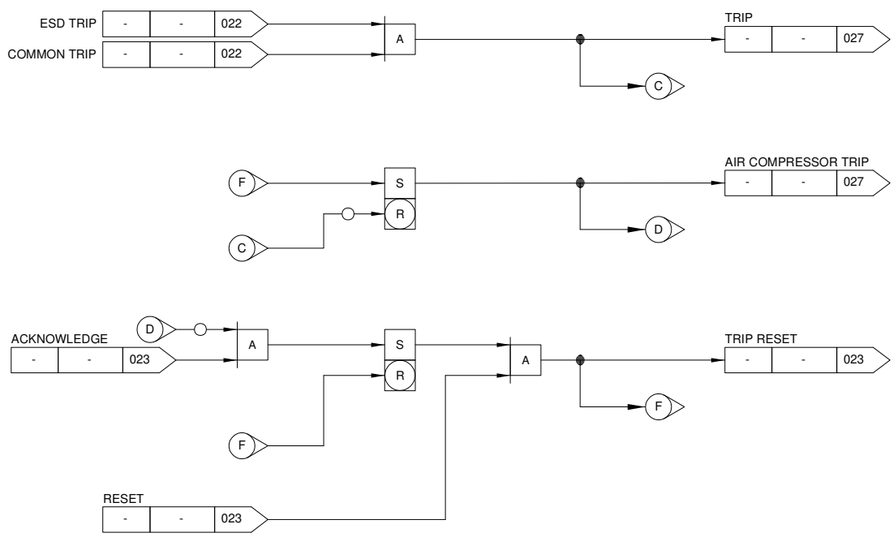
NOTE

1. This logic diagram provides the detailed operation of air compressor 44C-80001A. Air compressor 44C-80001B and 44C-80005A/B/C works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	026	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	TRIP TO MOTOR	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
					M	1 : NORMAL 0 : TRIP	MCC	-	TRIP TO MAIN MOTOR
					M	1 : NORMAL 0 : TRIP	MCC	-	TRIP TO OIL DEMISTER MOTOR
					M	1 : NORMAL 0 : TRIP	MCC	-	TRIP TO VENTILATION FAN MOTOR

NOTE

1. This logic diagram provides the detailed operation of air compressor 44C-80001A. Air compressor 44C-80001B and 44C-80005A/B/C works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	027	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	INSTRUMENT	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44PT-8004013	44C-80004A AIR COMPRESSOR INLET PRESSURE	FIELD	4~20 mA	-1~1 bar(g) BQ → 44PT-8004013-FLT (- - 032) LOW LOW ALARM (< -0.097 bar(g) LL SP) → 44PSALL-8004013 (- - 032) LOW ALARM (< -0.037 bar(g) L SP) → 44PSAL-8004013 (- - 032)		1 : TRIP 0 : NORMAL	DCS	44PT-8004013-FLT	SENSOR FAULT
						-1~1 bar(g)	DCS	44PI-8004013	44C-80004A AIR COMPRESSOR INLET PRESSURE
						1 : TRIP 0 : NORMAL	DCS	44PSALL-8004013	PRESSURE LOW LOW ALARM
						1 : ALARM 0 : NORMAL	DCS	44PSAL-8004013	PRESSURE LOW ALARM
44PT-8004043	44C-80004A AIR COMPRESSOR OIL PRESSURE	FIELD	4~20 mA	-1~5 bar(g) BQ → 44PT-8004043-FLT (- - 032) LOW LOW ALARM (< 1.8 bar(g) LL SP) → 44PSALL-8004043 (- - 032) LOW ALARM (< 1.9 bar(g) L SP) → 44PSAL-8004043 (- - 032)		1 : TRIP 0 : NORMAL	DCS	44PT-8004043-FLT	SENSOR FAULT
						-1~5 bar(g)	DCS	44PI-8004043	44C-80004A AIR COMPRESSOR OIL PRESSURE
						1 : TRIP 0 : NORMAL	DCS	44PSALL-8004043	PRESSURE LOW LOW ALARM
						1 : ALARM 0 : NORMAL	DCS	44PSAL-8004043	PRESSURE LOW ALARM
44PT-8004014	44C-80004A AIR COMPRESSOR OUTLET PRESSURE	FIELD	4~20 mA	-1~5 bar(g) BQ → 44PT-8004014-FLT (- - 032) HIGH HIGH ALARM (> 2.463 bar(g) HH SP) → 44PSAHH-8004014 (- - 032) HIGH ALARM (> 2.313 bar(g) H SP) → 44PSAH-8004014 (- - 032)		1 : TRIP 0 : NORMAL	DCS	44PT-8004014-FLT	SENSOR FAULT
						-1~5 bar(g)	DCS	44PI-8004014	44C-80004A AIR COMPRESSOR OUTLET PRESSURE
						1 : TRIP 0 : NORMAL	DCS	44PSAHH-8004014	PRESSURE HIGH HIGH ALARM
						1 : ALARM 0 : NORMAL	DCS	44PSAH-8004014	PRESSURE HIGH ALARM

NOTE

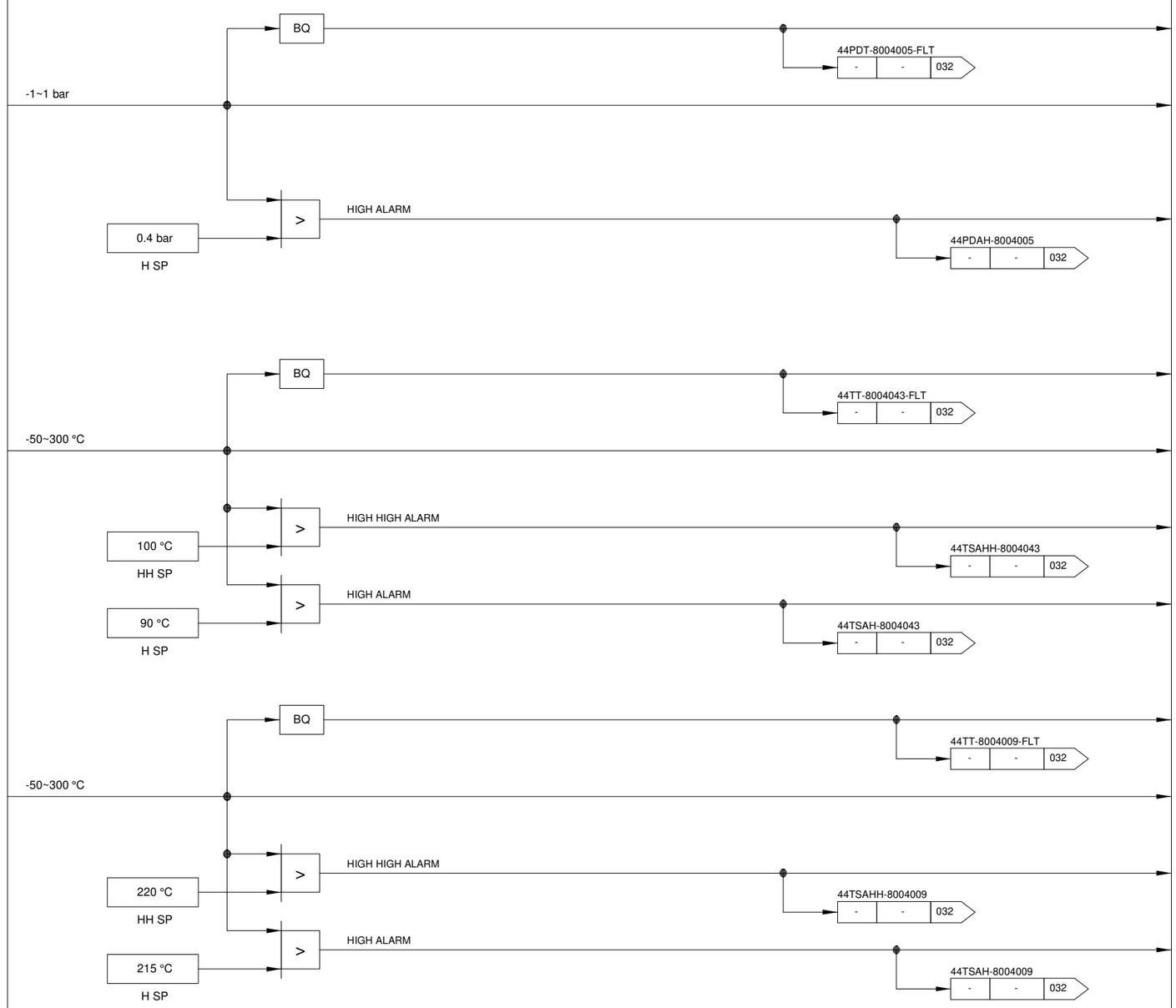
1. This logic diagram provides the detailed operation of air compressor 44C-40004A. Air compressor 44C-40004B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	030	REV. NO	01

INPUT				OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44PDT-8004005	44C-80004A AIR COMPRESSOR INLET FILTER DIFFERENTIAL PRESSURE	FIELD	4~20 mA		1 : ALARM 0 : NORMAL	DCS	44PDT-8004005-FLT	SENSOR FAULT
					0~100 °C	DCS	44PDI-8004005	44C-80004A AIR COMPRESSOR INLET FILTER DIFFERENTIAL PRESSURE
					1 : ALARM 0 : NORMAL	DCS	44PDAH-8004005	DIFFERENTIAL PRESSURE HIGH ALARM
44TT-8004043	44C-80004A AIR COMPRESSOR OIL TEMPERATURE	FIELD	4~20 mA		1 : TRIP 0 : NORMAL	DCS	44TT-8004043-FLT	SENSOR FAULT
					-50~300 °C	DCS	44TI-8004043	44C-80004A AIR COMPRESSOR OIL TEMPERATURE
					1 : TRIP 0 : NORMAL	DCS	44TSAHH-8004043	PRESSURE HIGH HIGH ALARM
					1 : ALARM 0 : NORMAL	DCS	44TSAH-8004043	PRESSURE HIGH ALARM
44TT-8004009	44C-80004A AIR COMPRESSOR OUTLET TEMPERATURE	FIELD	4~20 mA		1 : TRIP 0 : NORMAL	DCS	44TT-8004009-FLT	SENSOR FAULT
					-50~300 °C	DCS	44TI-8004009	44C-80004A AIR COMPRESSOR OUTLET TEMPERATURE
					1 : TRIP 0 : NORMAL	DCS	44TSAHH-8004009	PRESSURE HIGH HIGH ALARM
					1 : ALARM 0 : NORMAL	DCS	44TSAH-8004009	PRESSURE HIGH ALARM



NOTE

1. This logic diagram provides the detailed operation of air compressor 44C-40004A. Air compressor 44C-40004B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	031	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	ALARMS AND TRIPS (1)	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
				44PSAL-8004013 - - 030 44PSAL-8004043 - - 030 44PSAH-8004014 - - 030 44PDT-8004005-FLT - - 031 44PDAH-8004005 - - 031 44TSAH-8004043 - - 031 44TSAH-8004009 - - 031 → A → COMMON ALARM - - 033		1 : NORMAL 0 : ALARM	DCS	-	44C-80004A AIR COMPRESSOR COMMON ALARM
				44PT-8004013-FLT - - 030 44PSALL-8004013 - - 030 44PT-8004043-FLT - - 030 44PSALL-8004043 - - 030 44PT-8004014-FLT - - 030 44PSAHH-8004014 - - 030 44TT-8004043-FLT - - 031 44TSAHH-8004043 - - 031 44TT-8004009-FLT - - 031 44TSAHH-8004009 - - 031 → A → COMMON TRIP - - 033 034 035 037		1 : NORMAL 0 : TRIP	DCS	-	44C-80004A AIR COMPRESSOR COMMON TRIP
44Y-8004051	44C-80004A AIR COMPRESSOR MAIN MOTOR FAULT	MCC	1: NORMAL 0: TRIP	→					
44Y-8004052	44C-80004A AIR COMPRESSOR OIL DEMISTER MOTOR FAULT	MCC	1: NORMAL 0: TRIP	→					
-	ESD SIGNAL	DCS	1: NORMAL 0: TRIP	→ ESD TRIP - - 033 034 035 037		1 : NORMAL 0 : TRIP	DCS	-	44C-80004A AIR COMPRESSOR ESD TRIP

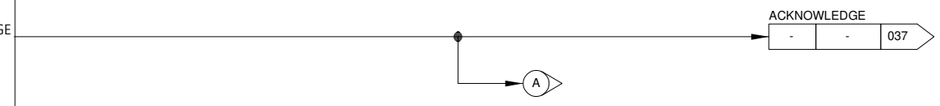
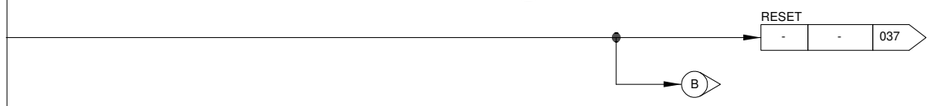
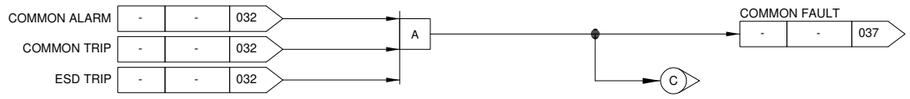
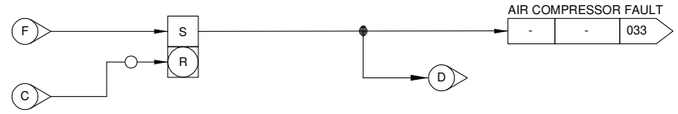
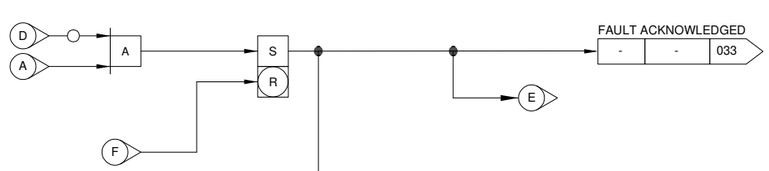
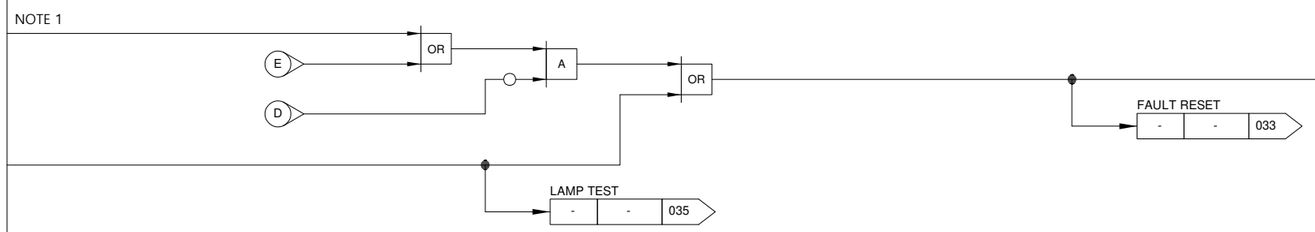
NOTE

1. This logic diagram provides the detailed operation of air compressor 44C-40004A. Air compressor 44C-40004B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	032	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	ALARMS AND TRIPS (2)	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
-	ACKNOWLEDGE BUTTON	DCS	1: ACKNOWLEDGE 0: NONE						
-	RESET BUTTON	DCS	1: RESET 0: NONE						
									
									
									
-	1 Hz CLOCK PULSE	DCS	-			1 : ON 0 : OFF	44LCP- 8004051	44XI-8004010	44C-80004A AIR COMPRESSOR FAULT LAMP
44PB-8004015	44C-80004A AIR COMPRESSOR LAMP TEST PUSHBUTTON	44LCP- 8004051	1: LAMP ON 0: NONE						

NOTE

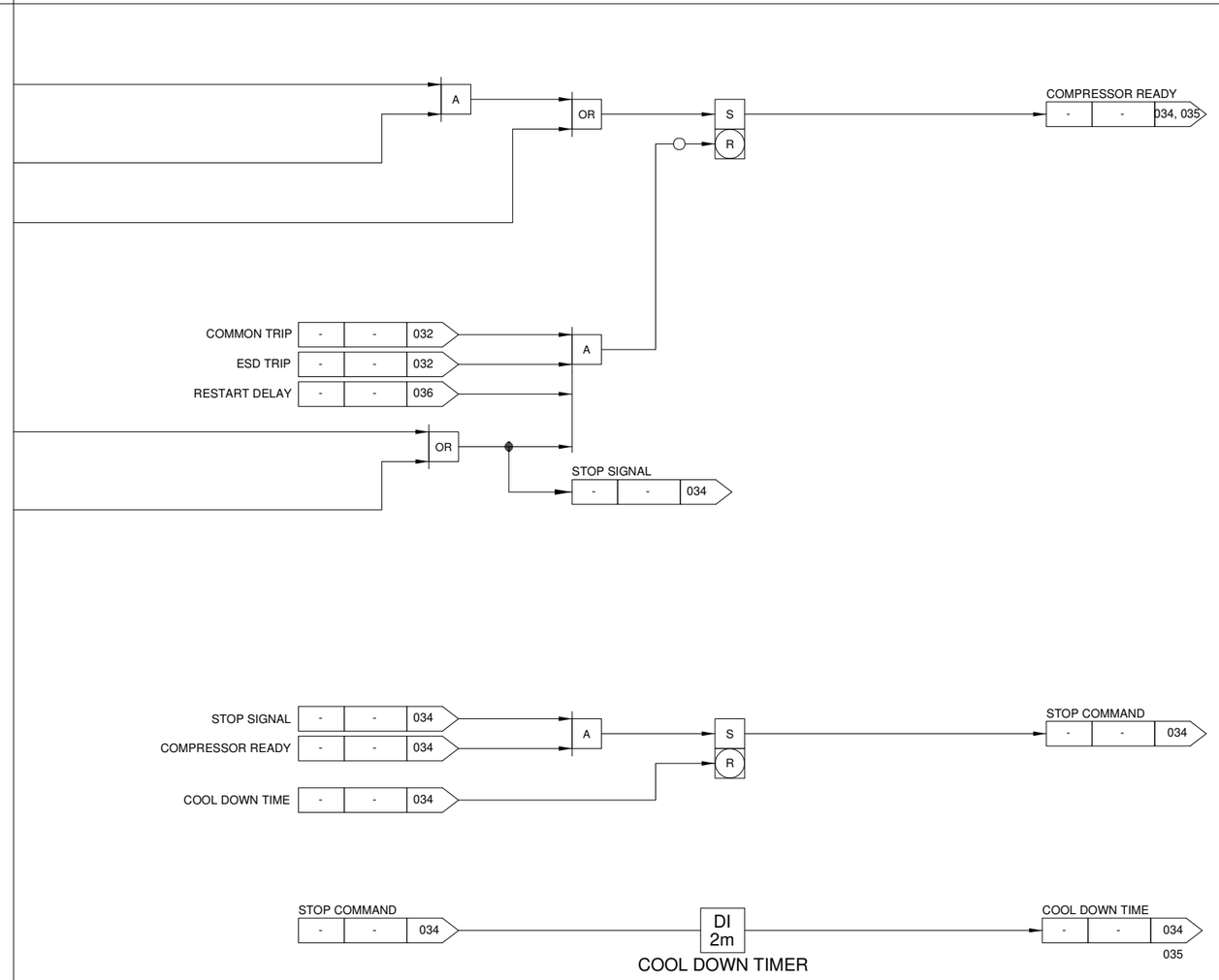
1. Continuously repeating 1 Hz clock pulse (commonly generated internally by PLC CPU) - 0,5 seconds TRUE, 0,5 seconds FALSE.
2. This logic diagram provides the detailed operation of air compressor 44C-40004A. Air compressor 44C-40004B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	033	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	START AND STOP	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44PB-8004013	44C-80004A AIR COMPRESSOR START PUSHBUTTON	44LCP-8004051	1: START 0: NONE						
-	DCS LOCAL START ENABLED	DCS	1: ENABLE 0: NONE						
-	DCS START	DCS	1: START 0: NONE						
44PB-8004014	44C-80004A AIR COMPRESSOR STOP PUSHBUTTON	44LCP-8004051	1: NONE 0: STOP						
-	DCS STOP	DCS	1: NONE 0: STOP						



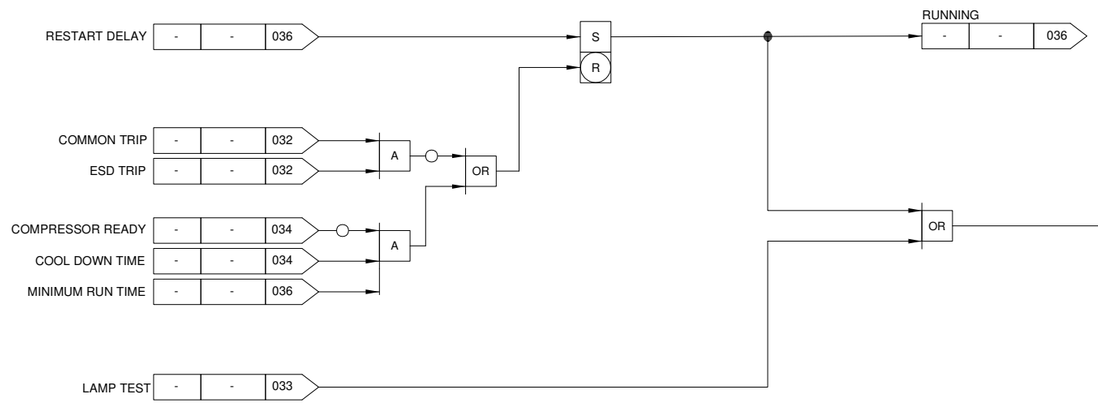
NOTE

1. This logic diagram provides the detailed operation of air compressor 44C-40004A. Air compressor 44C-40004B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	034	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	RUNNING	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
						1 : ON 0 : OFF	44LCP- 8004051	44XI-8004009	44C-80004A AIR COMPRESSOR RUNNING LAMP

NOTE

1. This logic diagram provides the detailed operation of air compressor 44C-40004A. Air compressor 44C-40004B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	035	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	MOTOR START/STOP	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
				RUNNING - - 035	M	1 : START 0 : STOP	MCC	44YHS-8004052	44C-80004A AIR COMPRESSOR OIL DEMISTER MOTOR START/STOP
-	44C-80004A AIR COMPRESSOR OIL DEMISTER MOTOR RUNNING FEEDBACK	MCC	1: RUNNING 0: NOT RUNNING	DI 2s MAIN MOTOR DELAY	M	1 : START 0 : STOP	MCC	44YHS-8004051	44C-80004A AIR COMPRESSOR MAIN MOTOR START/STOP
-	44C-80004A AIR COMPRESSOR MAIN MOTOR RUNNING FEEDBACK	MCC	1: RUNNING 0: NOT RUNNING	DI 60s RESTART DELAY TIMER RESTART DELAY - - 034 035 DI 20m MINIMUM RUN TIME MINIMUM RUN TIME - - 035					

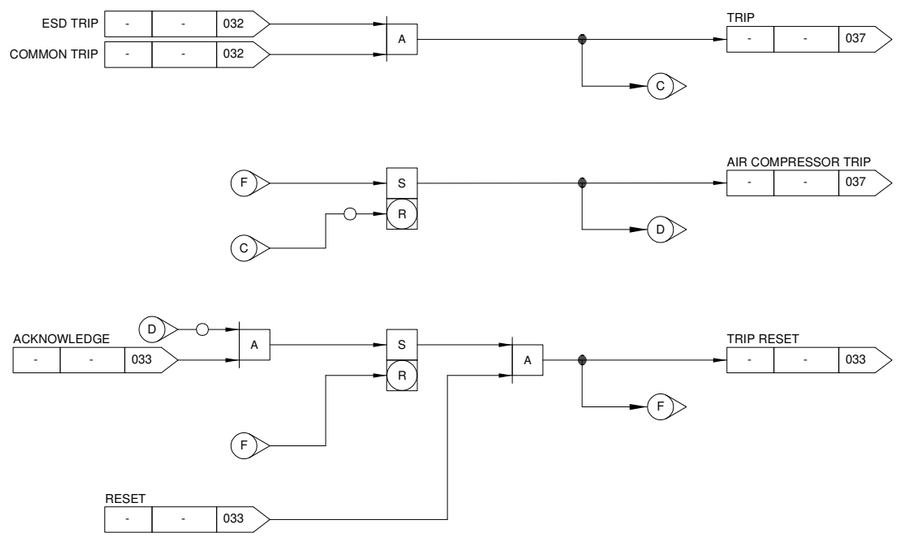
NOTE

1. This logic diagram provides the detailed operation of air compressor 44C-40004A. Air compressor 44C-40004B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	036	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	TRIP TO MOTOR	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
					M	1 : NORMAL 0 : TRIP	MCC	-	TRIP TO MAIN MOTOR
					M	1 : NORMAL 0 : TRIP	MCC	-	TRIP TO OIL DEMISTER MOTOR

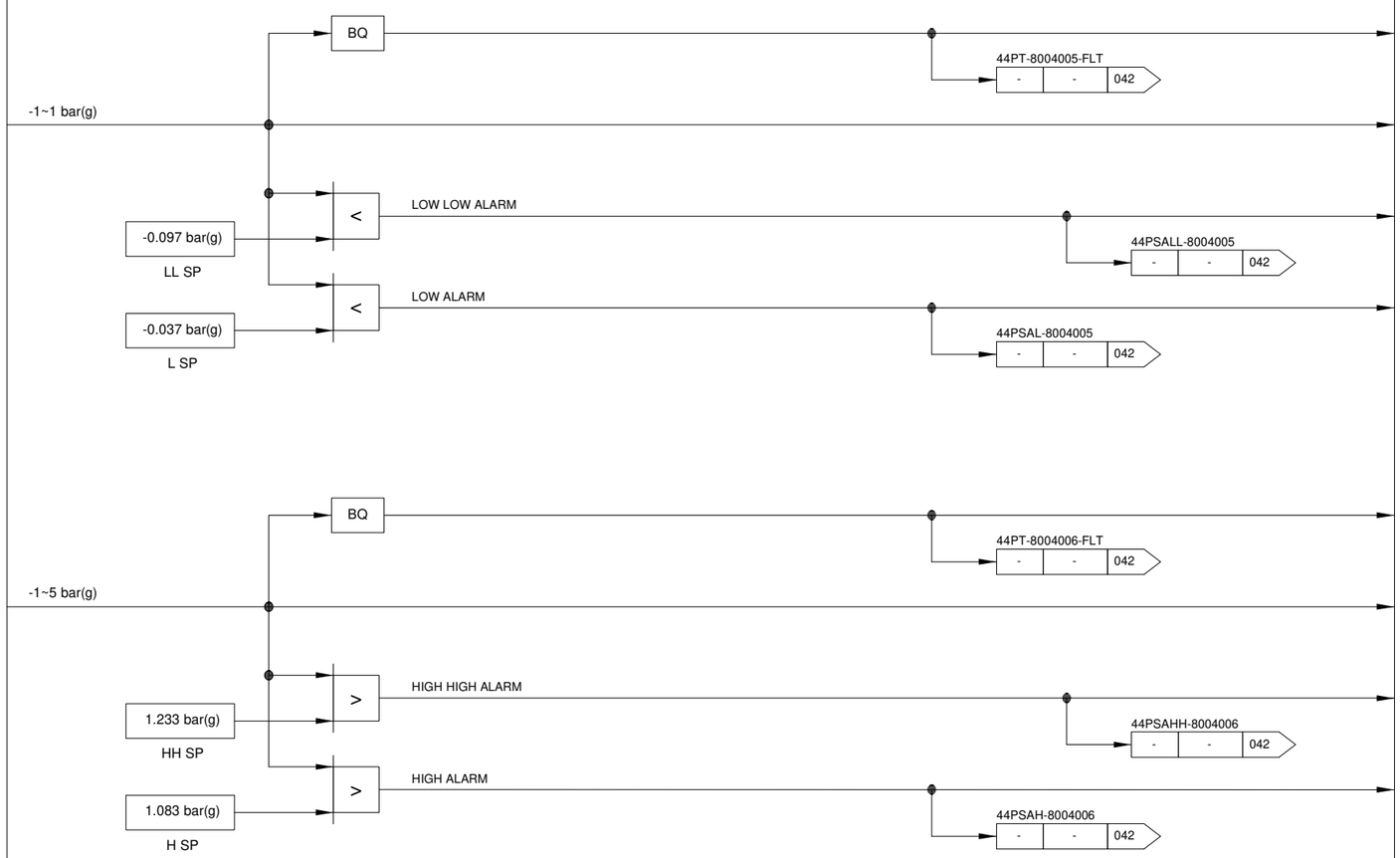
NOTE

1. This logic diagram provides the detailed operation of air compressor 44C-40004A. Air compressor 44C-40004B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	037	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	INSTRUMENT	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44PT-8004005	44C-80002A ROOTS BLOWER INLET PRESSURE	FIELD	4~20 mA			1 : TRIP 0 : NORMAL	DCS	44PT-8004005-FLT	SENSOR FAULT
						-1~1 bar(g)	DCS	44PI-8004005	44C-80002A ROOTS BLOWER INLET PRESSURE
						1 : TRIP 0 : NORMAL	DCS	44PSALL-8004005	PRESSURE LOW LOW ALARM
						1 : ALARM 0 : NORMAL	DCS	44PSAL-8004005	PRESSURE LOW ALARM
44PT-8004006	44C-80002A ROOTS BLOWER OUTLET PRESSURE	FIELD	4~20 mA			1 : TRIP 0 : NORMAL	DCS	44PT-8004006-FLT	SENSOR FAULT
						-1~5 bar(g)	DCS	44PI-8004006	44C-80002A ROOTS BLOWER OUTLET PRESSURE
						1 : TRIP 0 : NORMAL	DCS	44PSAHH-8004006	PRESSURE HIGH HIGH ALARM
						1 : ALARM 0 : NORMAL	DCS	44PSAH-8004006	PRESSURE HIGH ALARM

NOTE

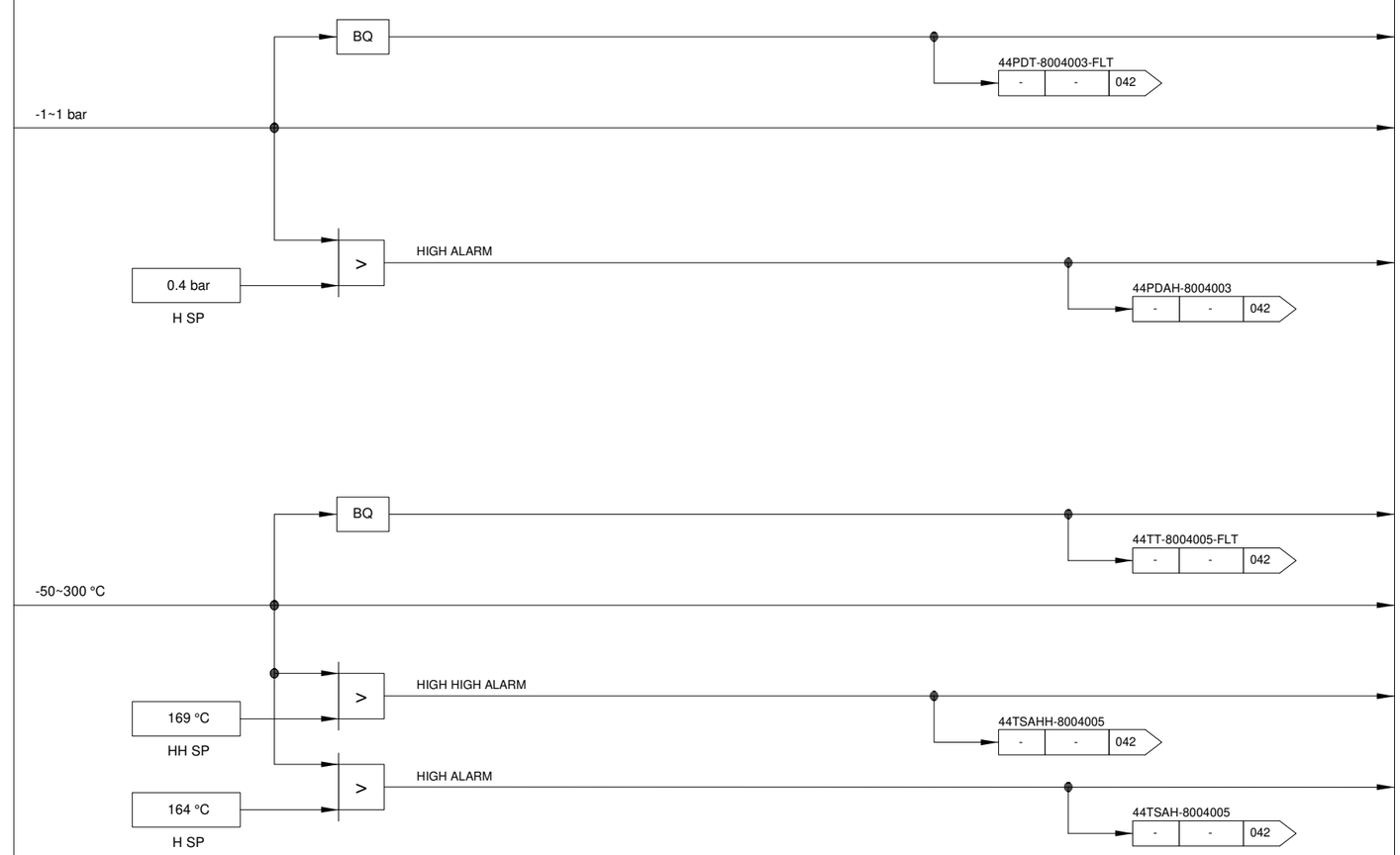
1. This logic diagram provides the detailed operation of roots blower 44C-40002A. Roots blower 44C-40002B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	040	REV. NO	01

INPUT				OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44PDT-8004003	44C-80002A ROOTS BLOWER INLET FILTER DIFFERENTIAL PRESSURE	FIELD	4~20 mA		1 : ALARM 0 : NORMAL	DCS	44PDT-8004003-FLT	SENSOR FAULT
					0~100 °C	DCS	44PDI-8004003	44C-80002A ROOTS BLOWER INLET FILTER DIFFERENTIAL PRESSURE
					1 : ALARM 0 : NORMAL	DCS	44PDAH-8004003	DIFFERENTIAL PRESSURE HIGH ALARM
44TT-8004005	44C-80002A ROOTS BLOWER OUTLET TEMPERATURE	FIELD	4~20 mA		1 : TRIP 0 : NORMAL	DCS	44TT-8004005-FLT	SENSOR FAULT
					-50~300 °C	DCS	44TI-8004005	44C-80002A ROOTS BLOWER OUTLET TEMPERATURE
					1 : TRIP 0 : NORMAL	DCS	44TSAHH-8004005	PRESSURE HIGH HIGH ALARM
					1 : ALARM 0 : NORMAL	DCS	44TSAH-8004005	PRESSURE HIGH ALARM



NOTE

1. This logic diagram provides the detailed operation of roots blower 44C-40002A. Roots blower 44C-40002B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	041	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	ALARMS AND TRIPS (1)	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44Y-8004031	44C-80002A ROOTS BLOWER MAIN MOTOR FAULT	MCC	1: NORMAL 0: TRIP	44PSAL-8004005 - - 040 44PSAH-8004006 - - 040 44PDT-8004003-FLT - - 041 44PDAH-8004003 - - 041 44TSAH-8004005 - - 041 → A → COMMON ALARM - - 043 44PT-8004005-FLT - - 040 44PSALL-8004005 - - 040 44PT-8004006-FLT - - 040 44PSAHH-8004006 - - 040 44TT-8004005-FLT - - 041 44TSAHH-8004005 - - 041 → A → COMMON TRIP - - 043 044 045 047		1 : NORMAL 0 : ALARM	DCS	-	44C-80002A ROOTS BLOWER COMMON ALARM
						1 : NORMAL 0 : TRIP	DCS	-	44C-80002A ROOTS BLOWER COMMON TRIP
-	ESD SIGNAL	DCS	1: NORMAL 0: TRIP	ESD TRIP - - 043 044 045 047		1 : NORMAL 0 : TRIP	DCS	-	44C-80002A ROOTS BLOWER ESD TRIP

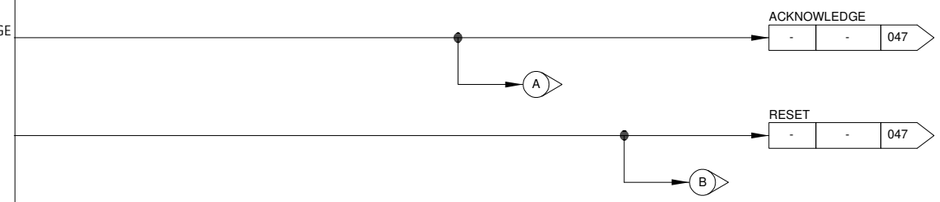
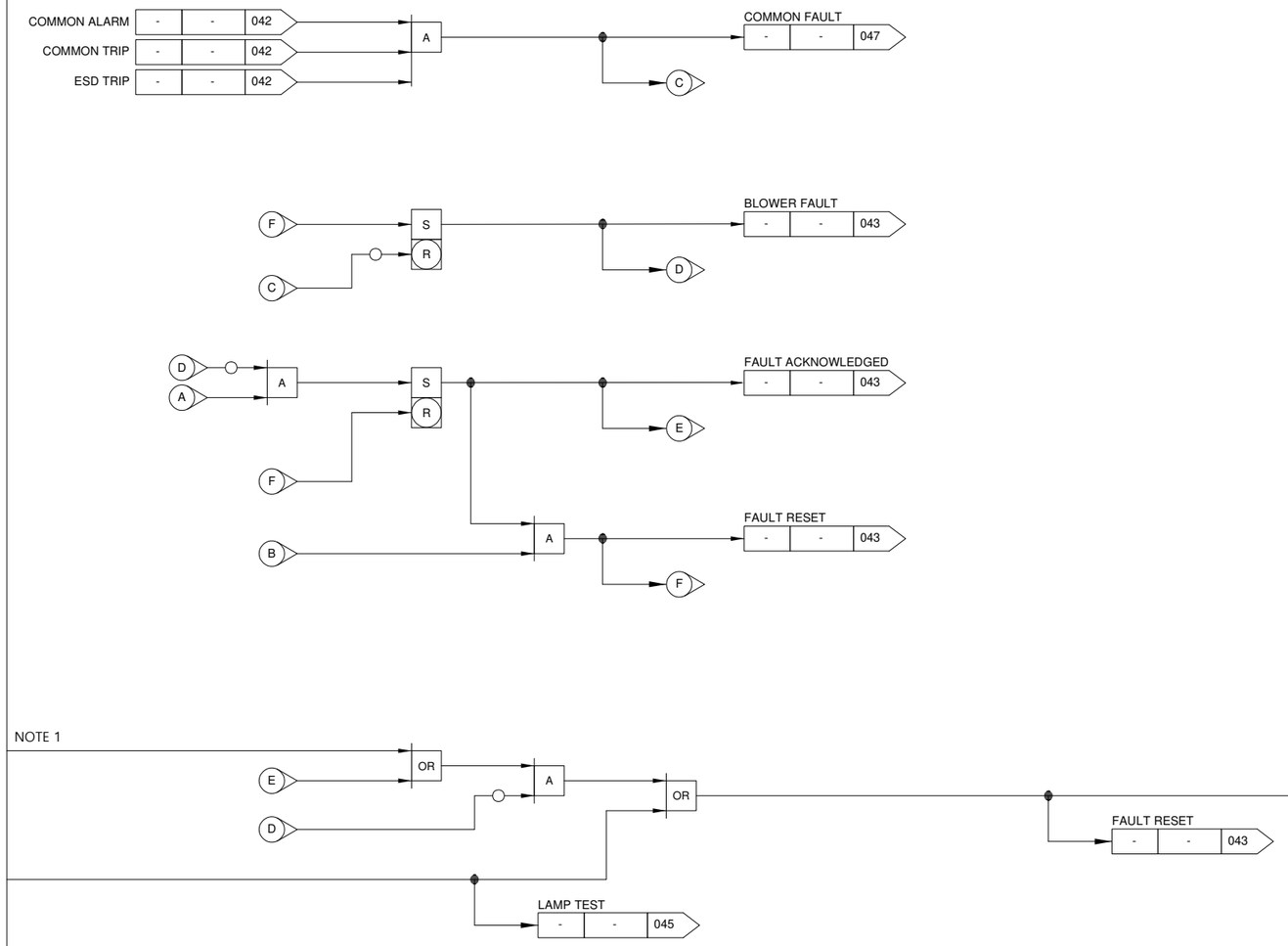
NOTE

1. This logic diagram provides the detailed operation of roots blower 44C-40002A. Roots blower 44C-40002B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	042	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	ALARMS AND TRIPS (2)	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
-	ACKNOWLEDGE BUTTON	DCS	1: ACKNOWLEDGE 0: NONE						
-	RESET BUTTON	DCS	1: RESET 0: NONE						
-	1 Hz CLOCK PULSE	DCS	-						
44PB-8004009	44C-80002A ROOTS BLOWER LAMP TEST PUSHBUTTON	44LCP- 8004031	1: LAMP ON 0: NONE			1 : ON 0 : OFF	44LCP- 8004031	44XI-8004006	44C-80002A ROOTS BLOWER FAULT LAMP

NOTE

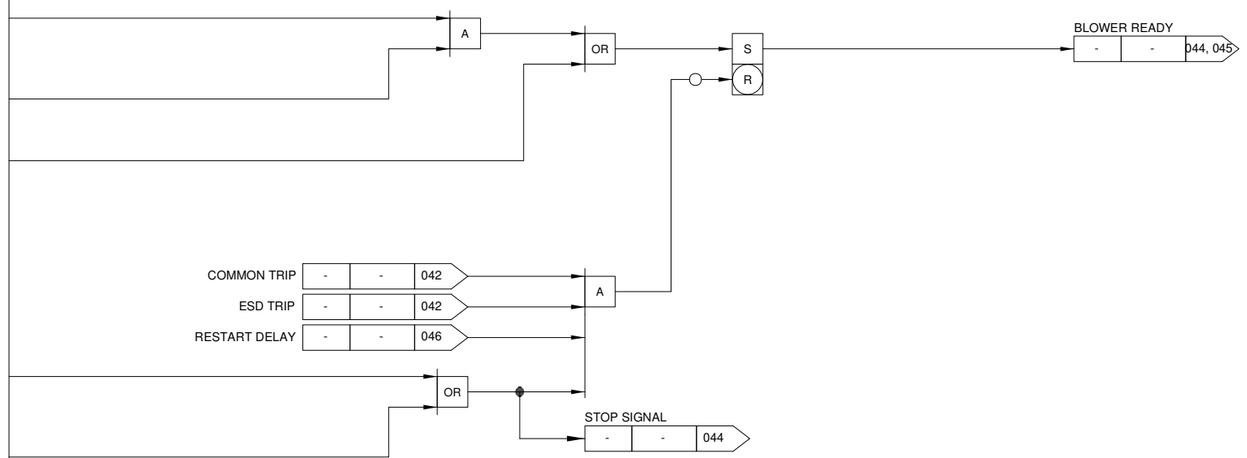
1. Continuously repeating 1 Hz clock pulse (commonly generated internally by PLC CPU) - 0,5 seconds TRUE, 0,5 seconds FALSE.
2. This logic diagram provides the detailed operation of roots blower 44C-40002A. Roots blower 44C-40002B works the same. Only tag numbers need to be changed accordingly.

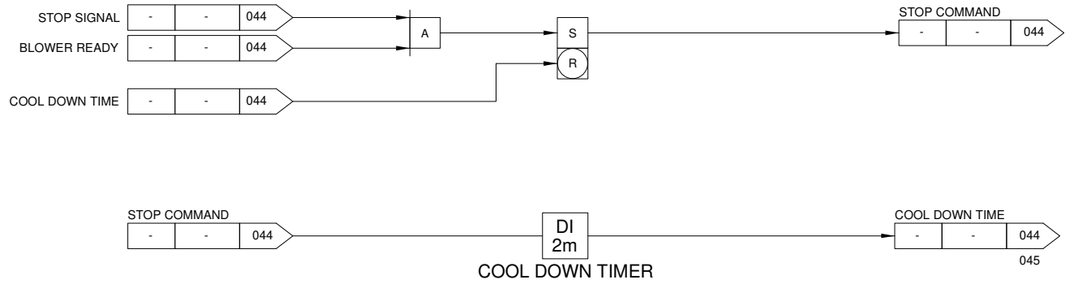
LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	043	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	START AND STOP	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
44PB-8004007	44C-80002A ROOTS BLOWER START PUSHBUTTON	44LCP-8004031	1: START 0: NONE						
-	DCS LOCAL START ENABLED	DCS	1: ENABLE 0: NONE						
-	DCS START	DCS	1: START 0: NONE						
44PB-8004008	44C-80002A ROOTS BLOWER STOP PUSHBUTTON	44LCP-8004031	1: NONE 0: STOP						
-	DCS STOP	DCS	1: NONE 0: STOP						





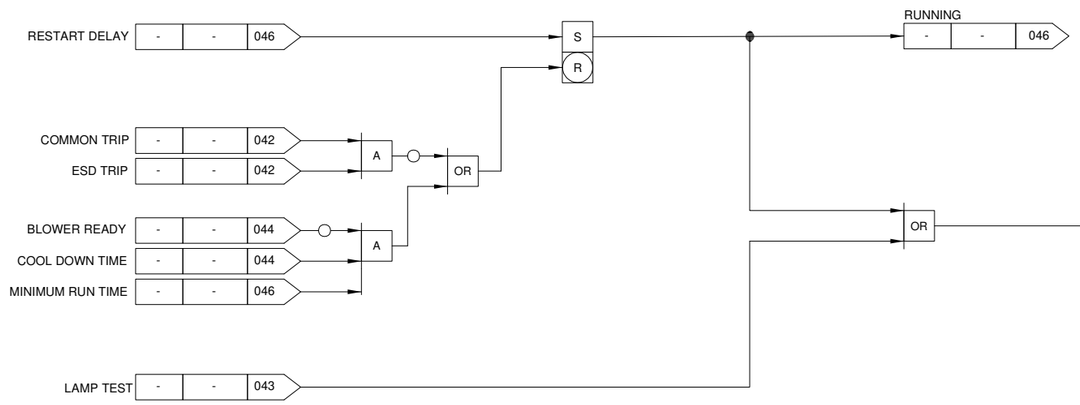
NOTE

1. This logic diagram provides the detailed operation of roots blower 44C-40002A. Roots blower 44C-40002B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	044	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	RUNNING	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
						1 : ON 0 : OFF	44LCP- 8004031	44XI-8004005	44C-80002A ROOTS BLOWER RUNNING LAMP

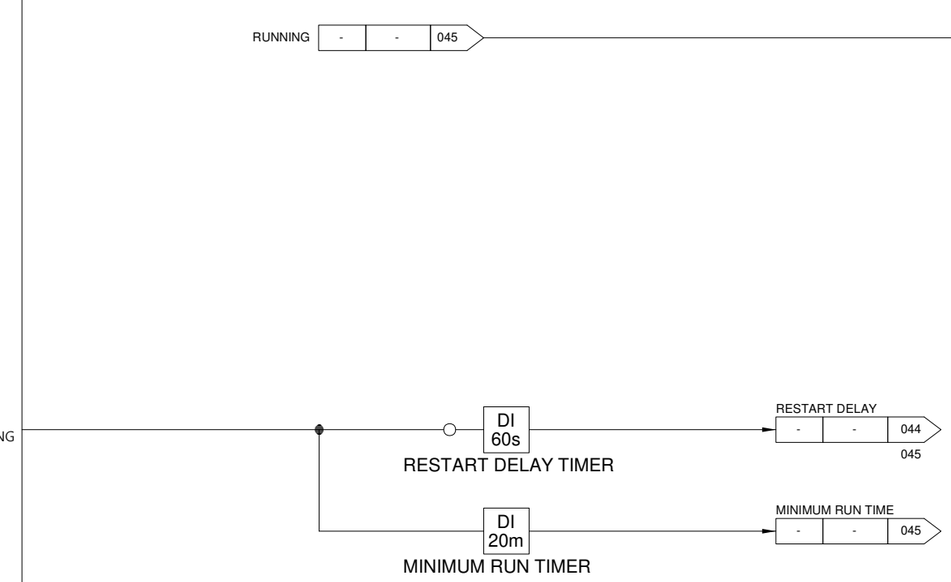
NOTE

1. This logic diagram provides the detailed operation of roots blower 44C-40002A. Roots blower 44C-40002B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	045	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	MOTOR START/STOP	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
-	44C-80002A ROOTS BLOWER MAIN MOTOR RUNNING FEEDBACK	MCC	1: RUNNING 0: NOT RUNNING		M	1 : START 0 : STOP	MCC	44YHS-8004031	44C-80002A ROOTS BLOWER MAIN MOTOR START/STOP

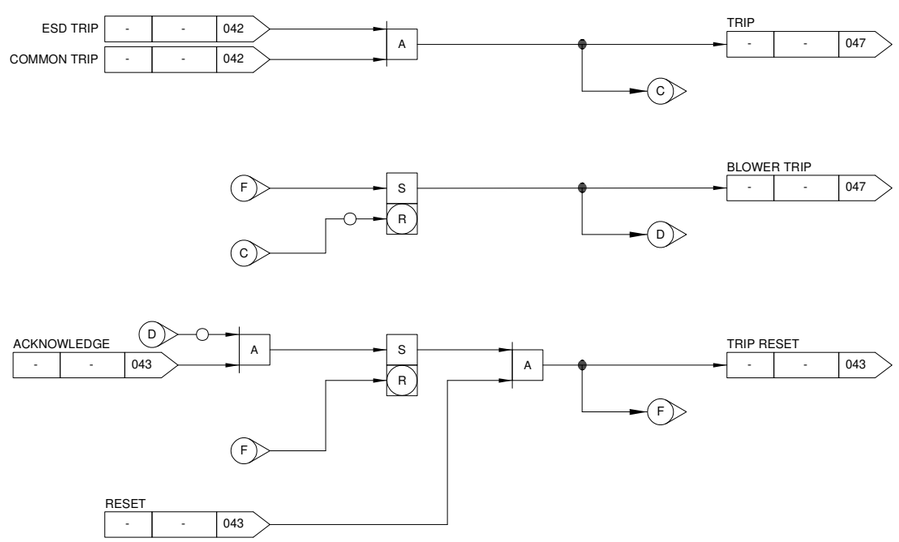
NOTE

1. This logic diagram provides the detailed operation of roots blower 44C-40002A. Roots blower 44C-40002B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	046	REV. NO	01

INPUT				DCS	OUTPUT				
TAG NO.	SERVICE	LOC	STATUS	TRIP TO MOTOR	SYMBOL	STATUS	LOC	TAG NO.	SERVICE
					M	1 : NORMAL 0 : TRIP	MCC	-	TRIP TO MAIN MOTOR

NOTE

1. This logic diagram provides the detailed operation of roots blower 44C-40002A. Roots blower 44C-40002B works the same. Only tag numbers need to be changed accordingly.

LOGIC DIAGRAM (POWDER)

PROJECT : 300 KT POLYETHYLENE PLANT
ARYA SASOL POLYMER COMPANY (ASPC)

DRAWING NO.	3944-VD-0171-DYP-RE-400-DIA-0083			
SCALE : NONE	SHEET NO.	047	REV. NO	01