AUTOMATIZACION DE PROCESOS DE MANUFACTURA

FUNDAMENTOS LOGICA DISCRETA-EVENTOS

POA

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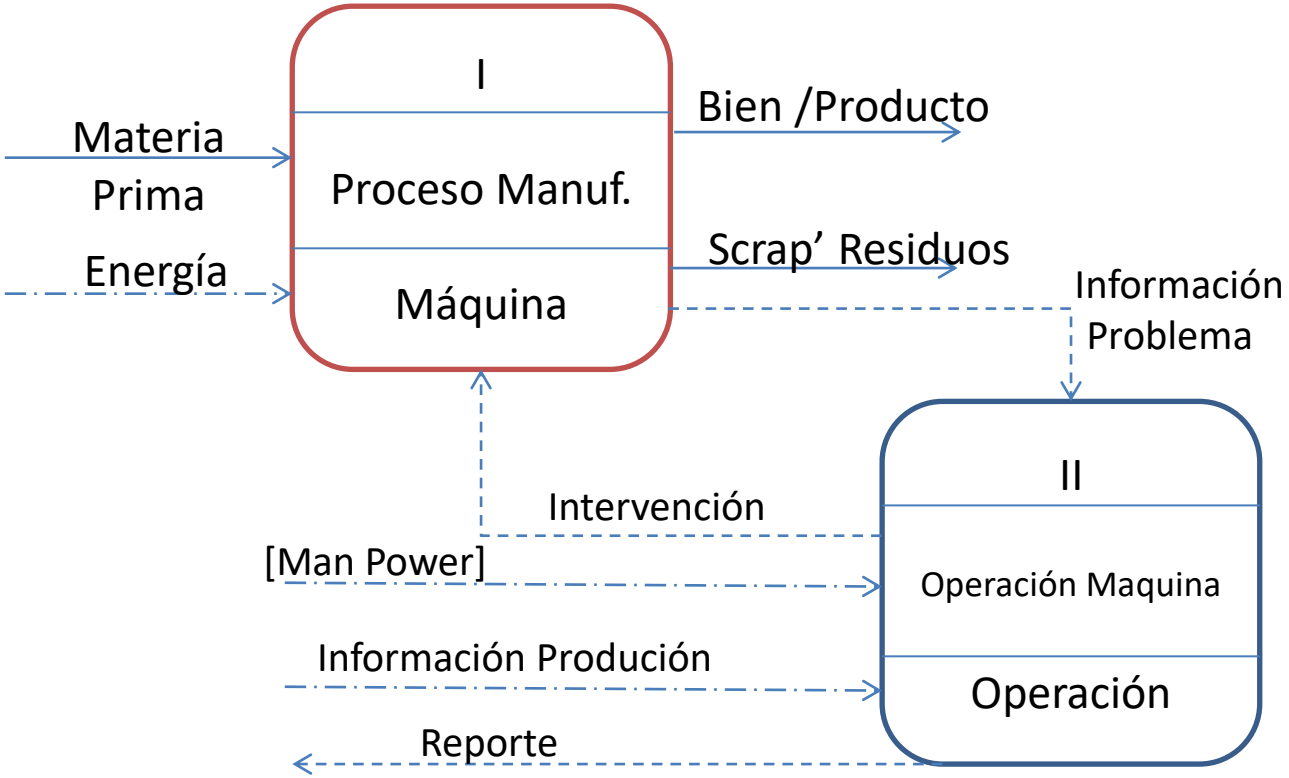
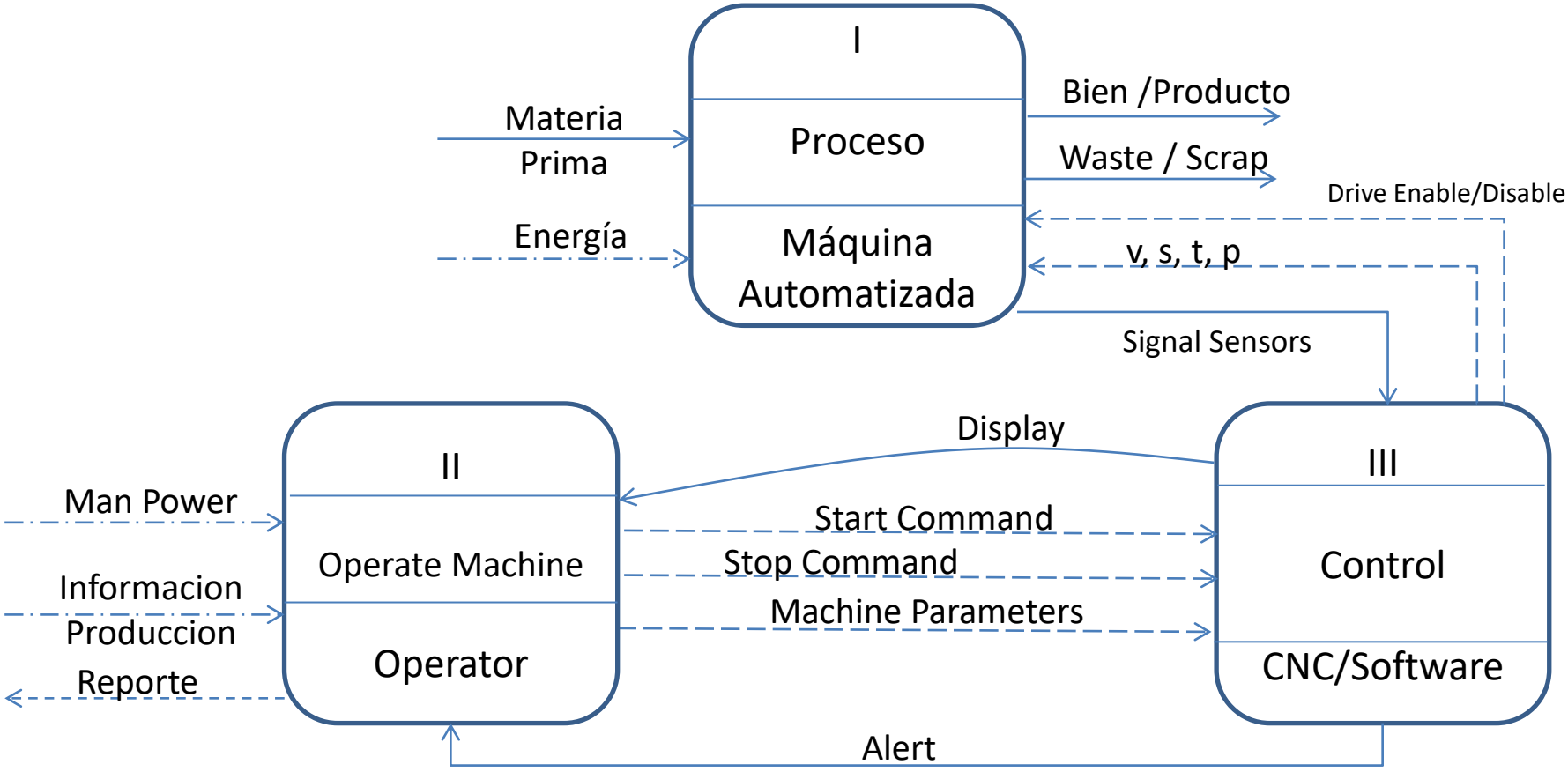
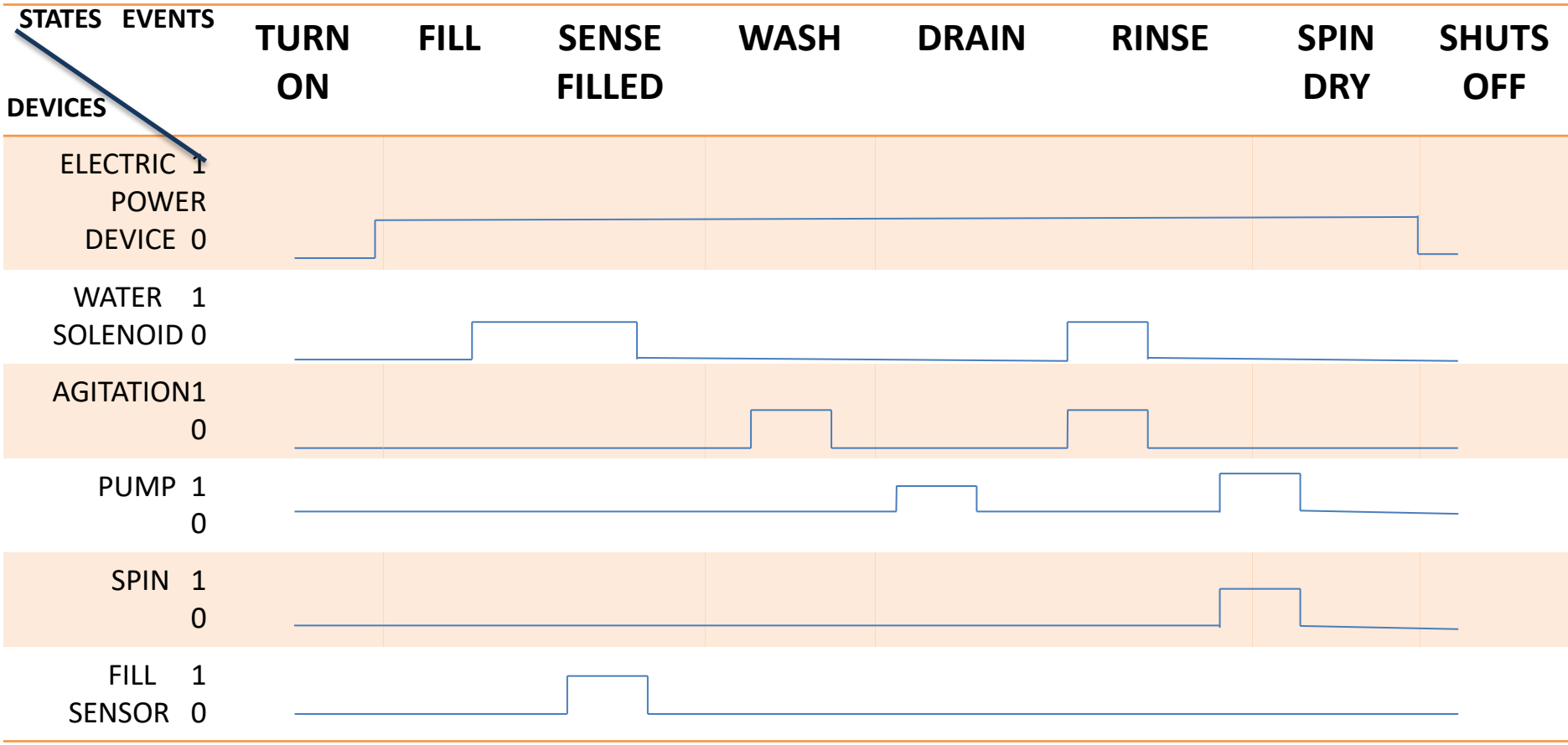
Mecanización



Automatización

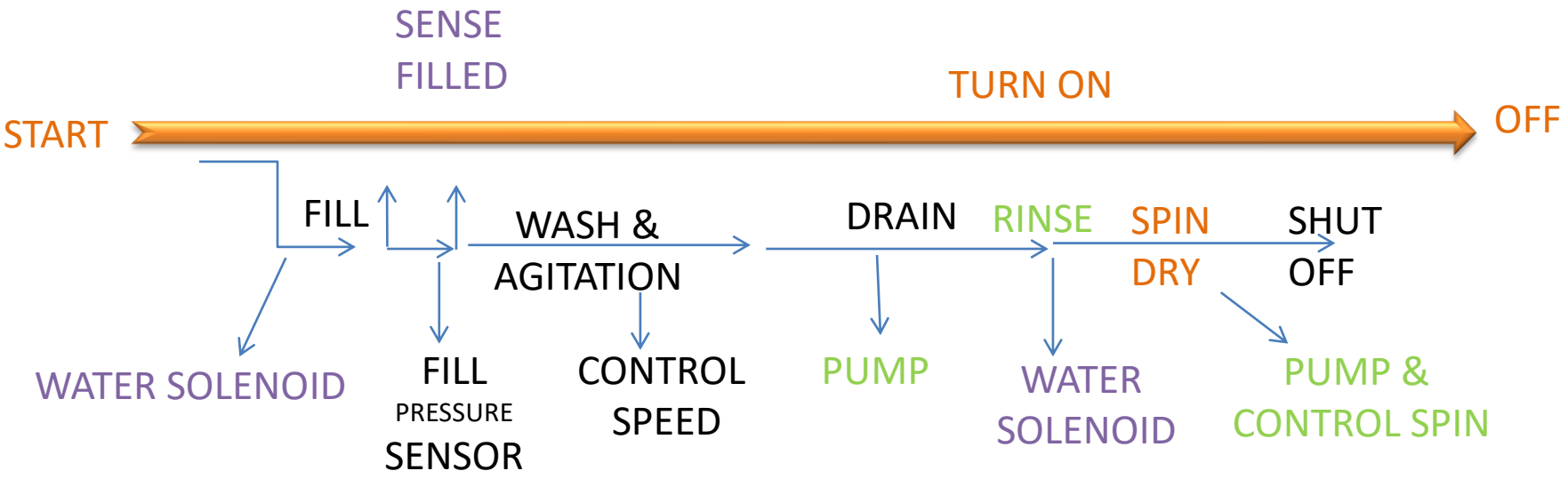


THE TIME DIAGRAM FOR SIMPLE WASHING MASCHINE OPERATION



- THE SENSORS OR MOTOR EITHER TRIGGERING EVENTS OR CAUSING MOTION
- THE SENSOR INPUT Ts CONSIDERED “LOW “ OR O IF THERE IS NO SIGNAL, OR “HIGH” OR 1 WHEN THE SIGNAL OCCURS [AS WHEN THE WRITER LEVEL HAS BEEN REACHED]
- THE AGITATION MOTOR IS AT REST WHEN NOTED AS O , AN IN OPERATION WITH A 1 .
- SOME EVENTS LIKE “TURN ON ” TAKE A FRACTION OF A SECONDS , WHILE OTHER EVENTS LIKE “FILL” CAN TAKE FIVE MINUTES OR MORE.

VECTORS STATES

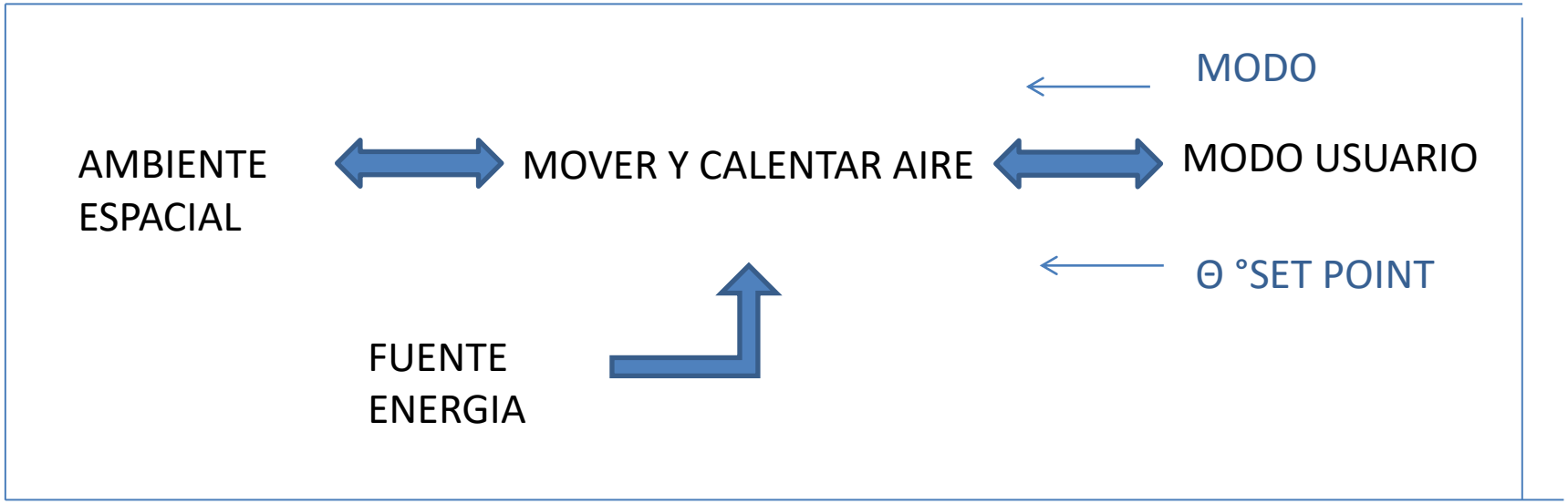


POA BASICO 1: PLANTAMIENTO DEL PROBLEMA PROCESO

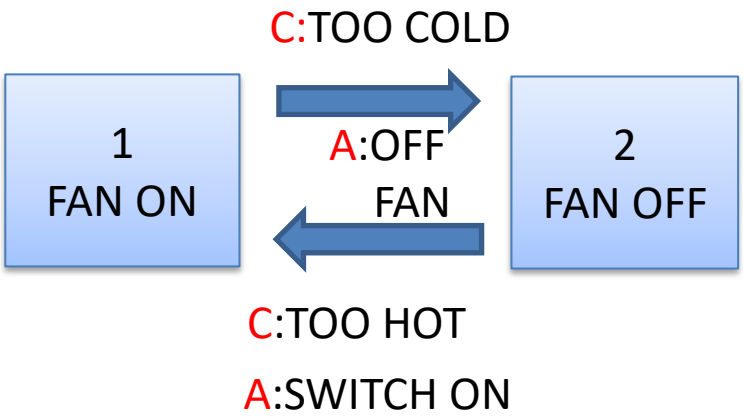
Automatización con lógica discreta

Planteamiento Problema → Acondicionamiento del aire en un recinto

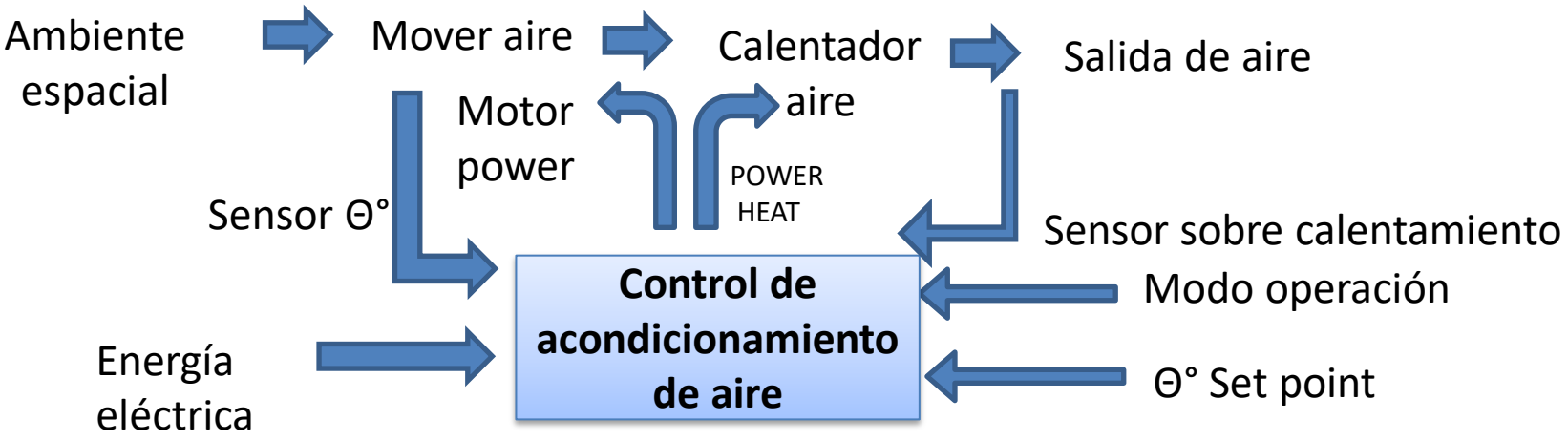
Parámetros Variables Condiciones



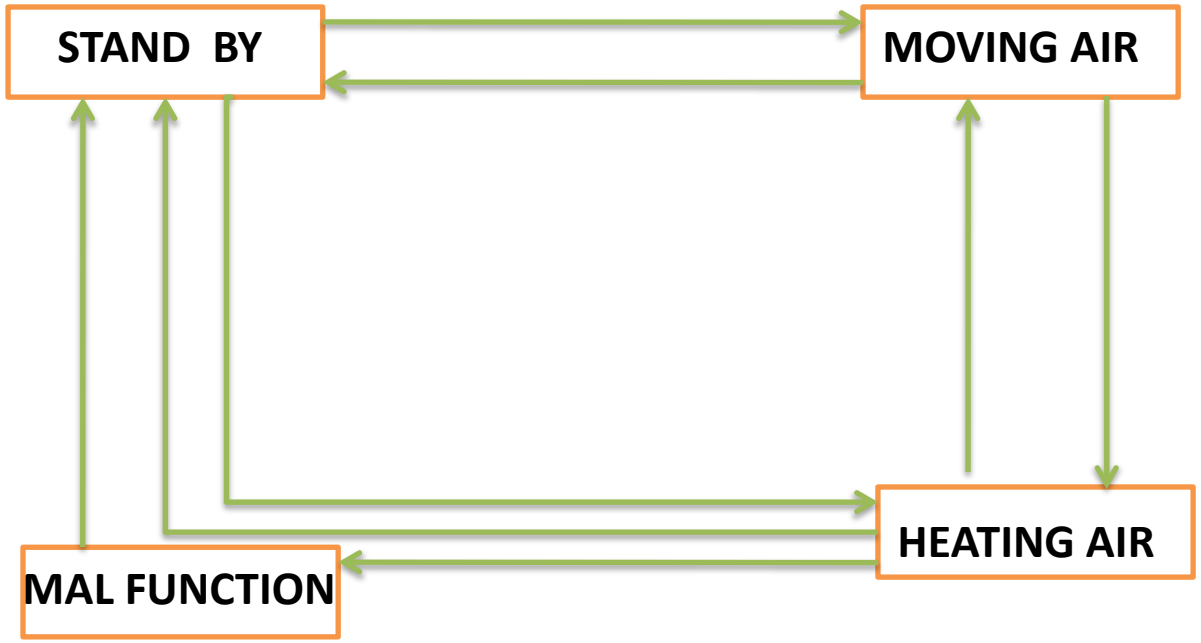
POA3 CONCEPTO DE DIAGRAMA O MAQUINA DE ESTADO[CONDICIÓN /ACCIÓN]



POA 2 DESPLIEGUE DEL PROCESO EN FASES FUNDAMENTALES



POA 4 DESPLIEGUE PROCESO DE CONTROL EN SUS CUATRO ESTADOS PRINCIPALES



POA5 DEFINICION DE CARACTERISTICAS
ESTADOS DE CONTROL: IDENTIFCACION DE CONDICIONES Y ACCIONES

CONDICIONES:

BLOWING
HEATING
SAFETY
$T_S > T_R$

ACCIONES:

POWER MOTOR
POWER HEATER

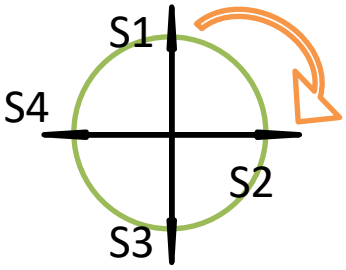
6 ESTRUCTURA DEL DIAGRAMA LOGICO /CONTROL

7 ESTRUCTURA DEL DIAGRAMA LADDER

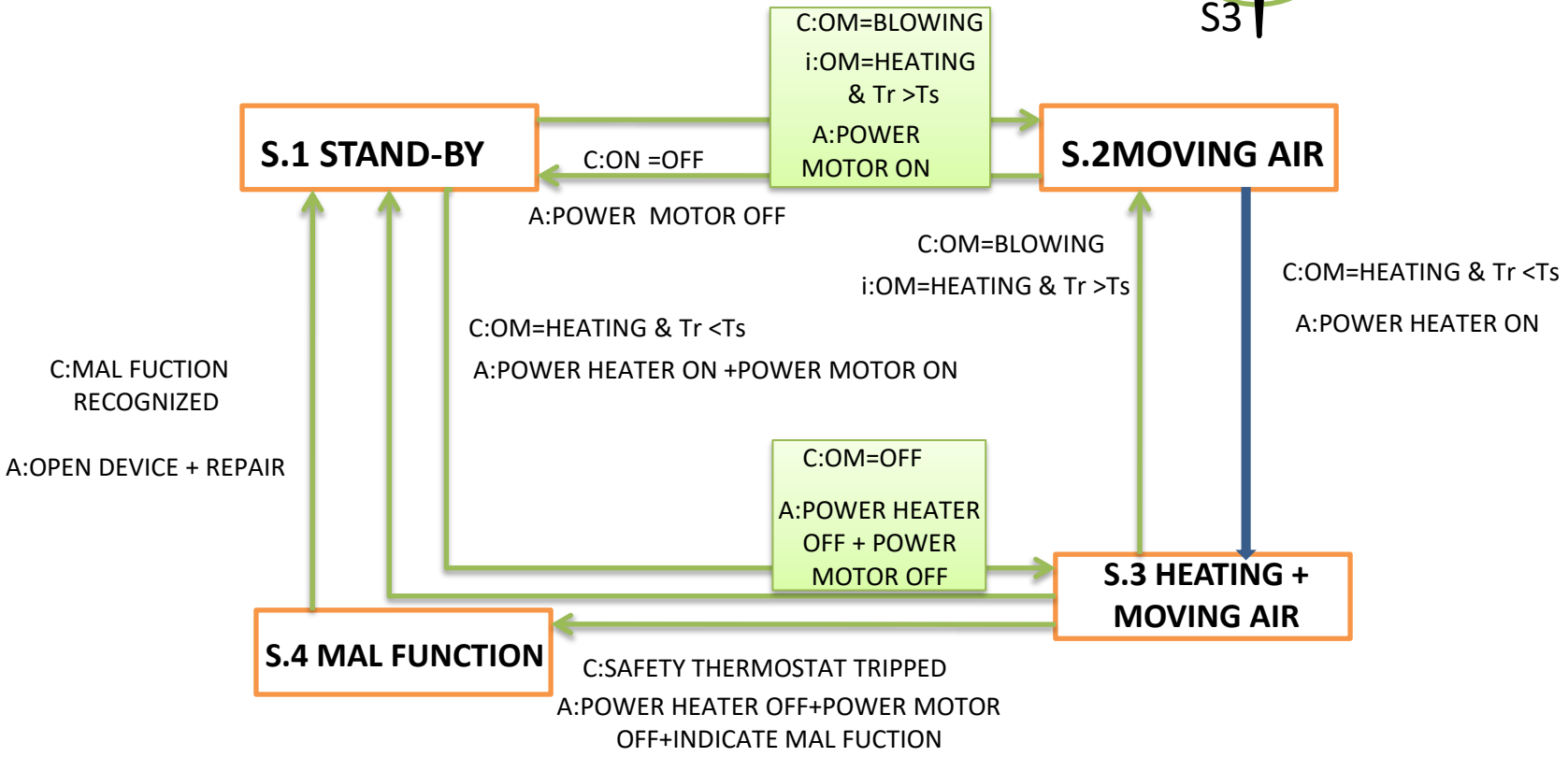
8 DEFINICIONES /COROLARIO STATE/TRANSITION/CONDITION/ACTION

POA 6 DETAILED STATE DIAGRAM CHART

SDC

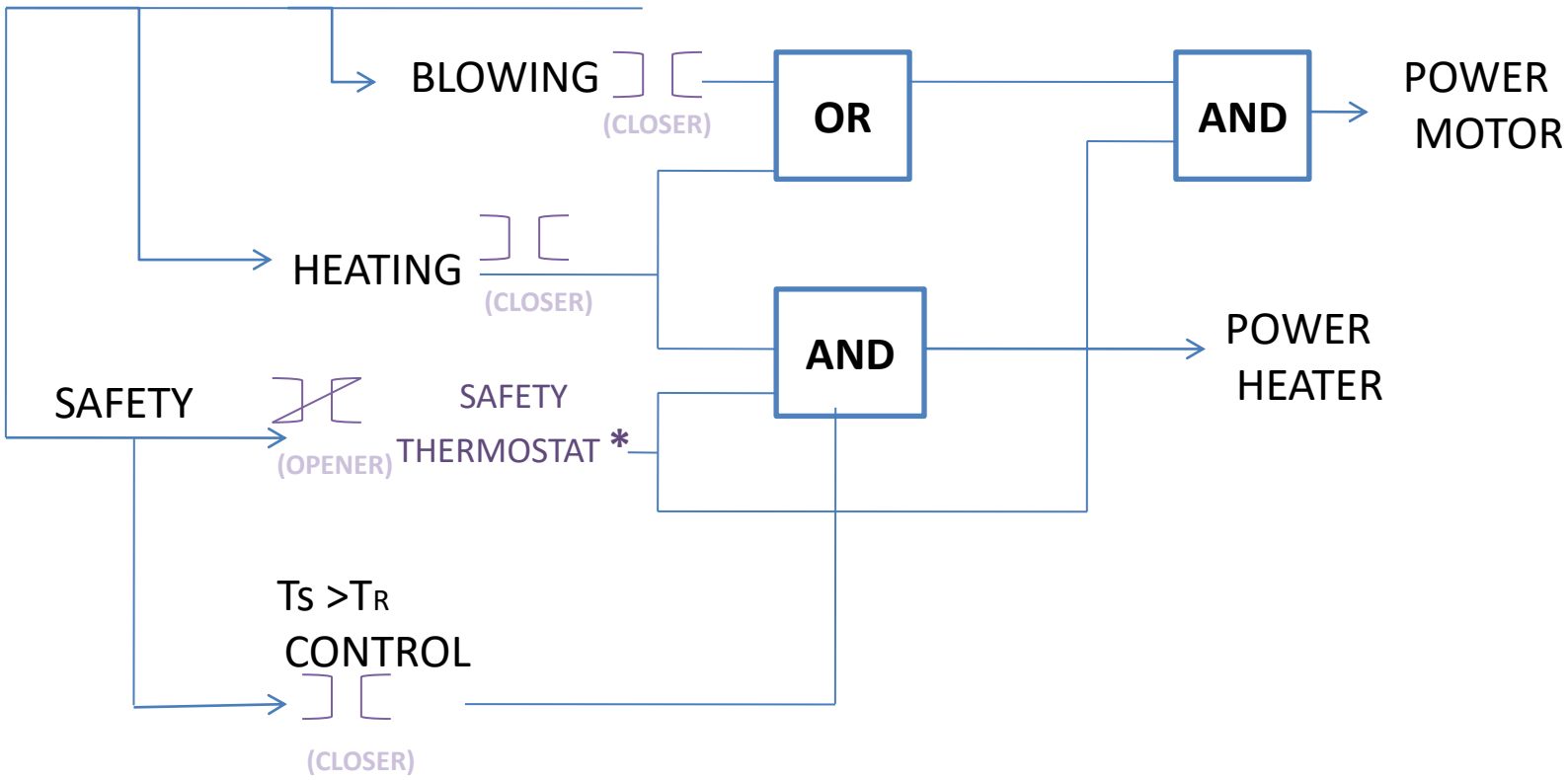


COMPRENSIVE STATE CHART “CONTROL FAN HEATER ”



POA 7 LOGICAL FUNCTIONAL BLOCK DIAGRAM
LFBD

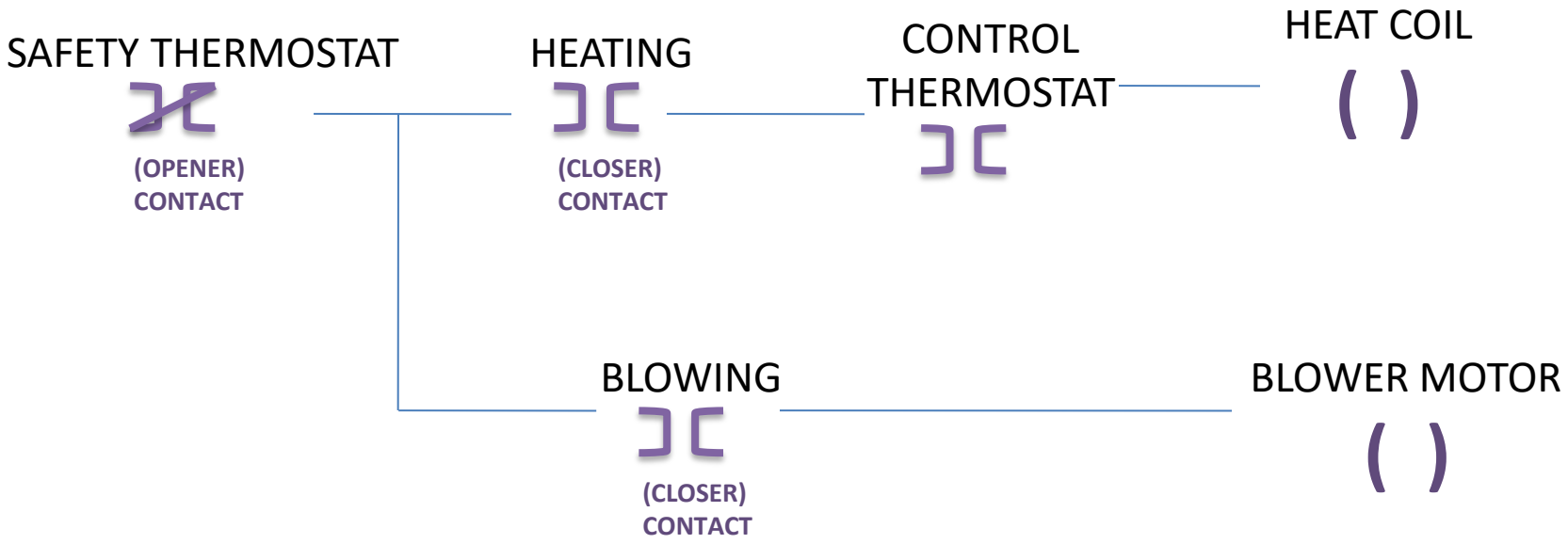
RESUME :GENERAL CONDITIONS OF STATES



* FUNDAMENTAL CONDITION

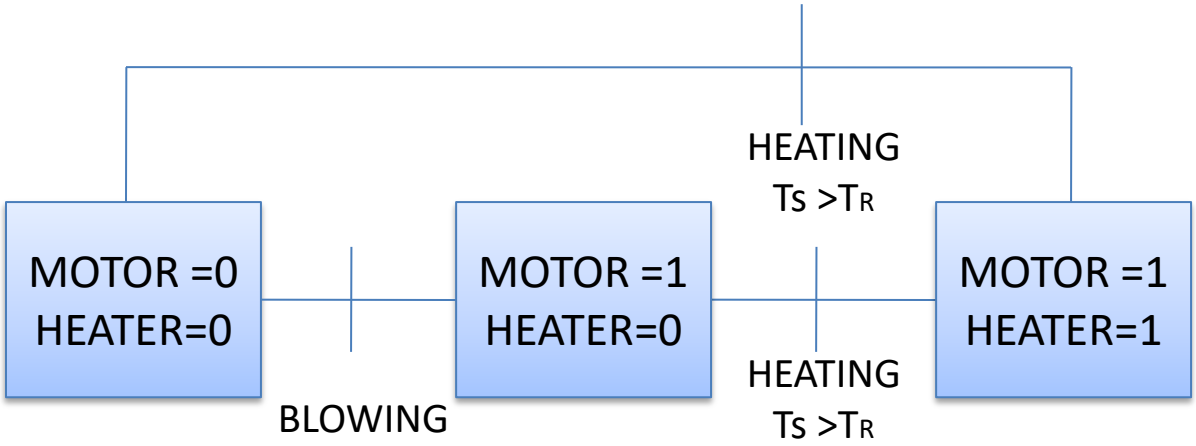
POA 8 SIMPLE LADDER DIAGRAM

LD



SEQUENTIAL FUNCTION CHART –SFCH

(AS SINGLE LEVEL STATE CHART WITH CONDITIONS) NOTED ON THE TRANSITIONS



VERSION:CLASSICAL PROGRAMING LANGUAGE ALONG WITH STRICT OBJECT ORIENTATION , DEFINE THE PROCESS BY CLASSES AND SUB- CLASES AND TREAT THE PERTAINING STATE CHARTS AS METHOD

PROGRAMMING LANGUAGES IN FORME OF LINES OF CODE AS **STRUCTURED TEXT (ST) OR COMAND LIS**T (CL)

POWER MOTOR=0
POWER HEATER =0
IF OM BLOWING OR (OM=HEATING TR >Ts) THEN POWER MOTOR =1
END IF
IF OM =HEATING AND TR<Ts THEN POWER HEATER=1
END IF