FUNCTION\_BLOCK FWD\_REV\_MON

VAR\_INPUT AUTO : BOOL ;(\* Enable automated commands \*)

ACK : BOOL ; (\* Acknowledge/cancel all alarms \*)

AUTO\_FWD : BOOL ; (\* Automated forward command \*)

MAN\_FWD : BOOL ; (\* Manual forward command \*)

MAN\_FWD\_CHK : BOOL ; (\* Negated MAN\_FWD for debouncing \*)

T\_FWD\_MAX : TIME ; (\* Maximum time from FWD\_CMD to FWD\_FDBK \*)

FWD\_FDBK : BOOL ; (\* Confirmation of FWD\_CMD completion \*)

(\* by operative unit \*)

AUTO\_REV : BOOL ; (\* Automated reverse command \*)

MAN\_REV : BOOL ; (\* Manual reverse command \*)

MAN\_REV\_CHK : BOOL ; (\* Negated MAN\_REV for debouncing \*)

T\_REV\_MAX : TIME ; (\* Maximum time from REV\_CMD to REV\_FDBK \*)

REV\_FDBK : BOOL ; (\* Confirmation of REV\_CMD completion \*)

END\_VAR (\* by operative unit \*)

VAR\_OUTPUT KLAXON : BOOL ; (\* Any alarm active \*)

FWD\_REV\_ALRM : BOOL; (\* Forward/reverse command conflict \*)

FWD\_CMD : BOOL ; (\* "Forward" command to operative unit \*)

FWD\_ALRM : BOOL ; (\* T\_FWD\_MAX expired without FWD\_FDBK \*)

REV\_CMD : BOOL ; (\* "Reverse" command to operative unit \*)

REV\_ALRM : BOOL ; (\* T\_REV\_MAX expired without REV\_FDBK \*)

END\_VAR

VAR FWD\_MON : CMD\_MONITOR; (\* "Forward" command monitor \*)

REV\_MON : CMD\_MONITOR; (\* "Reverse" command monitor \*)

FWD\_REV\_FF : SR ; (\* Forward/Reverse contention latch \*)

END\_VAR

(\* Function Block body \*)

(\* Evaluate internal function blocks \*)

FWD\_MON (AUTO\_MODE := AUTO,

ACK := ACK,

AUTO\_CMD := AUTO\_FWD,

MAN\_CMD := MAN\_FWD,

MAN\_CMD\_CHK := MAN\_FWD\_CHK,

T\_CMD\_MAX := T\_FWD\_MAX,

FDBK := FWD\_FDBK);

REV\_MON (AUTO\_MODE := AUTO,

ACK := ACK,

AUTO\_CMD := AUTO\_REV,

MAN\_CMD := MAN\_REV,

MAN\_CMD\_CHK := MAN\_REV\_CHK,

T\_CMD\_MAX := T\_REV\_MAX,

FDBK := REV\_FDBK);

FWD\_REV\_FF (S1 := FWD\_MON.CMD & REV\_MON.CMD, R := ACK);

(\* Transfer data to outputs \*)

FWD\_REV\_ALRM := FWD\_REV\_FF.Q1;

FWD\_CMD := FWD\_MON.CMD & NOT FWD\_REV\_ALRM;

FWD\_ALRM := FWD\_MON.ALRM;

REV\_CMD := REV\_MON.CMD & NOT FWD\_REV\_ALRM;

REV\_ALRM := REV\_MON.ALRM;

KLAXON := FWD\_ALRM OR REV\_ALRM OR FWD\_REV\_ALRM;

END\_FUNCTION\_BLOCK