SCADE Suite

OpenETCS

Speed and Distance Monitoring

**M000\_Root :**

**M100\_PreCalcul :**

**M110\_Step\_Operator :**

The distance from LRBG up to EOA is split into 110 steps,

To each step is attached to elementary variables organised in table :

* SSP value,
* Gradient value,
* EOA and DP position,
* TSR value,
* Adh indication,
* AEB value,
* ASB value,
* Asafe value,
* dV value,
* Mode of driving.

All steps have a size in geometric progression (reason = 1.06),

Initial size of step 1 is 1.06 m, Max covered distance is 10109,64m.

**M120\_MRSP\_Operator :**

MRSP operator is grouping all data related to speed,

All data of type (d, v) is transformed into variables attached to steps,

* “d” being the distance from reference where “v” must be applied,
* “v” being the value to be applied (speed, gradient, Adh, EOA).

MRSP operator is using **“Spreader\_Operator”** to deal data related to speed,

dV allowance are dealt through **“dV\_Operator”**.

**M130\_ACCeler\_Operator :**

ACCeler operator is grouping all data related to A\_safe and A\_service,

ACCeler operator is using :

**Boolean Spreader operator** (to take into account Adh),

**AEB and ASB operators** (to take into account train characteristics),

**Compute\_Acc** (to take into account slope and gravity).

**M140\_EBD\_Operator** :

EBD operator is grouping all data related to Emergency Braking curves,

must be computed in reverse (from EOA to LRBG),

**M150\_SBD\_Operator** :

SBD operator is grouping all data related to Service Braking curves (SBI1),

must be computed in reverse (from EOA to LRBG),

**M200\_Supervision :**

**M210\_Delta\_Operator :**

Delta\_Operator estimates speed and position at EB start {ANT\_V, ANT\_P0},

then with same speed, estimates position at SB start (ANT\_P1),

then with same speed, estimates position at W start (ANT\_P2).

**M220\_Search\_Operator :**

Search\_Operator is used to find the step located at a given location,

Provides position and speed (Vebd).

**M230\_Target\_Operator :**

Target\_Operator is used to find the end of ceiling area in reverse direction,

Should be put in precalcul.