<document classification>

## **Fuel Management**

## Simulador de Administrador de Combustíveis

## **Summary:**

<summary>

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## 1. General Project Description

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## 2. Software Architecture

## 2.1. Project Architecture

This section displays the package hierarchy of projects.

Project FuelManagement

## 2.2. Call Graph

This Call Graph displays the dependency tree of model operators.

#### 1. Main

- 1.1. EnableWidgets
- 1.2. RepaintFuelLevel
- 1.3. SetFuelColor
- 1.4. SetFuelLevel
- 1.5. SetTankFullVisible
- 1.6. ShowLayer

## 2.3. SCADE Display Integration

This section lists the SCADE Display projects linked to the SCADE Suite model, as well as the SCADE Suite operators connected with SCADE Display graphics.

#### **Linked SCADE Display projects:**

<u>fuel management.etp</u>

**Connected SCADE Suite operator(s):** *None* 

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## 3. FuelManagement Project

## 3.1. Root Elements

## 3.1.1. Types

Table 1: Public Types of FuelManagement

Name	Definition	Comments and Information
BoolMsg	{Emit : bool, Value : bool}	
intMsg	{Emit : bool, Value : uint32}	
intMsg2	{Emit : bool, Value : uint8}	

#### 3.1.2. Constants

**Table 2: Public Constants of FuelManagement** 

Name	Туре	Value	Comments and Information
A661_FALSE	bool	false	
A661_TRUE	bool	true	
ALCOHOL_COLOR	uint8	64	
CLOSED_ID	int32	0	
DIESEL_COLOR	uint8	47	
FUEL_INCREMENT	uint32	1000	
FUEL_LEVEL_OFFSET	uint32	100	
GASOLINE_COLOR	uint8	57	
MAX_FUEL_LEVEL	uint32	10000	
OPEN_ID	int32	1	

## 3.1.3. EnableWidgets Operator

Declared as private function

## 3.1.3.1. Interface

**Table 3: Inputs of EnableWidgets** 

Name	Туре	Comments and Information
FuelType	uint16	
FuelStatus	int32	
FuelLevelValue	uint32	

**Table 4: Outputs of EnableWidgets** 

Name	Туре	Comments and Information
RefuelEnable	BoolMsg	
FuelTypeEnable	BoolMsg	

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## 3.1.3.2. Operator Hierarchy

diagram: EnableWidgets 1

## 3.1.3.3. Graphical and Textual Diagrams

## 3.1.3.3.1. View of EnableWidgets\_1 (EnableWidgets)

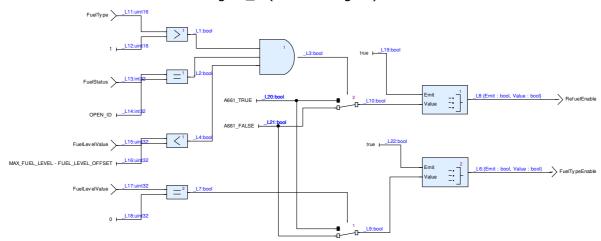


Figure 1: View of EnableWidgets\_1 (EnableWidgets)

## 3.1.4. Main Operator

Declared as public node

#### 3.1.4.1. Interface

Table 5: Inputs of Main

Name	Туре	Comments and Information
TankStatus	bool	
Refuel	bool	
EmptyTank	bool	
FuelType	uint16	

**Table 6: Outputs of Main** 

Name	Туре	Comments and Information
LayerVisible	bool	
FuelVisible	BoolMsg	
FuelLevel	intMsg	
RefuelEnable	BoolMsg	
FuelTypeEnable	BoolMsg	
TankFullVisible	BoolMsg	
FuelColor	intMsg2	

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#### 3.1.4.2. Locals

**Table 7: Locals of Main** 

Name	Туре	Comments and Information
tank_status	int32	

## 3.1.4.3. Operator Hierarchy

diagram: Main 1

state-machine : <u>SM1</u> state : TankClosed

<u>diagram</u>: <u>TankClosed\_1</u>

state : TankOpen

<u>diagram</u>: <u>TankOpen 1</u>

## 3.1.4.4. Graphical and Textual Diagrams

## 3.1.4.4.1. View of Main\_1 (Main)

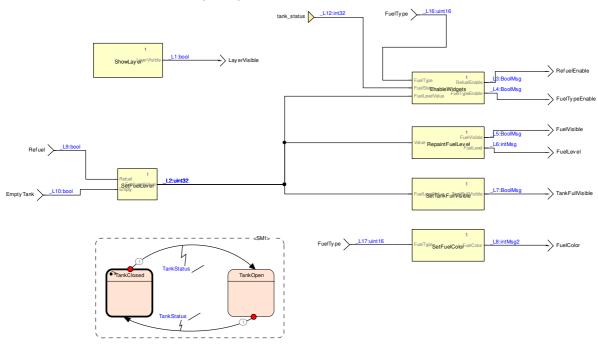


Figure 2: View of Main\_1 (Main)

Table 8: State Machines of Main\_1

State Machine	Comments and Information
SM1	

Table 9: States of Main\_1

State	Comments and Information
SM1:TankClosed	
SM1:TankOpen	

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Table 10: Transitions of Main\_1

Source/Target	#	Conditions/Actions	Comments and Information
Source: SM1:TankClosed Target: SM1:TankOpen	1	<b>Condition:</b> TankStatus	
Source: SM1:TankOpen Target: SM1:TankClosed	1	<b>Condition:</b> TankStatus	

3.1.4.4.2. View of TankClosed\_1 (Main/SM1:TankClosed:)

Owner diagram: Main 1



Figure 3: View of TankClosed\_1 (Main/SM1:TankClosed:)

3.1.4.4.3. View of TankOpen\_1 (Main/SM1:TankOpen:)

Owner diagram: Main 1



Figure 4: View of TankOpen\_1 (Main/SM1:TankOpen:)

## 3.1.5. RepaintFuelLevel Operator

Declared as private function

#### 3.1.5.1. Interface

**Table 11: Inputs of RepaintFuelLevel** 

Name	Туре	Comments and Information
Value	uint32	

**Table 12: Outputs of RepaintFuelLevel** 

Name	Туре	Comments and Information
FuelVisible	BoolMsg	
FuelLevel	intMsg	

## 3.1.5.2. Operator Hierarchy

<u>diagram</u>: RepaintFuelLevel 1

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## 3.1.5.3. Graphical and Textual Diagrams

#### 3.1.5.3.1. View of RepaintFuelLevel\_1 (RepaintFuelLevel)

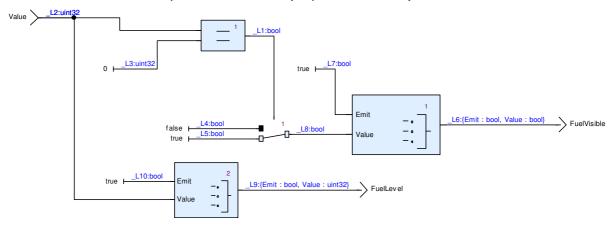


Figure 5: View of RepaintFuelLevel\_1 (RepaintFuelLevel)

#### 3.1.6. SetFuelColor Operator

Declared as private function

#### 3.1.6.1. Interface

**Table 13: Inputs of SetFuelColor** 

Name	Туре	Comments and Information
FuelType	uint16	

**Table 14: Outputs of SetFuelColor** 

Name	Туре	Comments and Information
FuelColor	intMsg2	

#### 3.1.6.2. Operator Hierarchy

<u>diagram</u>: <u>SetFuelColor 1</u>

## 3.1.6.3. Graphical and Textual Diagrams

#### 3.1.6.3.1. View of SetFuelColor\_1 (SetFuelColor)

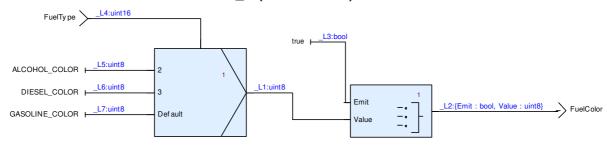


Figure 6: View of SetFuelColor\_1 (SetFuelColor)

## 3.1.7. SetFuelLevel Operator

Declared as private node

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#### 3.1.7.1. Interface

Table 15: Inputs of SetFuelLevel

Name	Туре	Comments and Information
Refuel	bool	
Empty	bool	

**Table 16: Outputs of SetFuelLevel** 

Name	Туре	Comments and Information
FuelLevelValue	uint32	

#### 3.1.7.2. Locals

**Table 17: Locals of SetFuelLevel** 

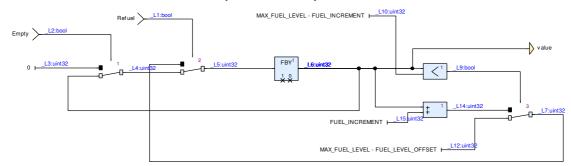
Name	Туре	Comments and Information
value	uint32	

## 3.1.7.3. Operator Hierarchy

<u>diagram</u>: <u>SetFuelLevel 1</u>

## 3.1.7.4. Graphical and Textual Diagrams

#### 3.1.7.4.1. View of SetFuelLevel\_1 (SetFuelLevel)



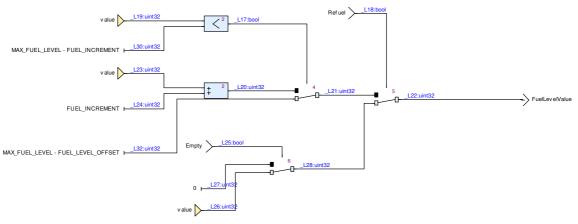


Figure 7: View of SetFuelLevel\_1 (SetFuelLevel)

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#### 3.1.8. SetTankFullVisible Operator

Declared as private function

#### 3.1.8.1. Interface

Table 18: Inputs of SetTankFullVisible

Name	Туре	Comments and Information
FuelLevelValue	uint32	

Table 19: Outputs of SetTankFullVisible

Name	Туре	Comments and Information
TankFullVisible	BoolMsg	

## 3.1.8.2. Operator Hierarchy

<u>diagram</u>: <u>SetTankFullVisible 1</u>

#### 3.1.8.3. Graphical and Textual Diagrams

#### 3.1.8.3.1. View of SetTankFullVisible\_1 (SetTankFullVisible)

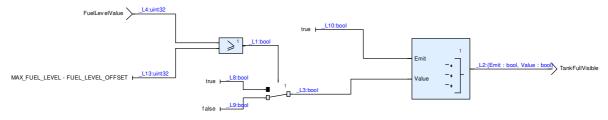


Figure 8: View of SetTankFullVisible\_1 (SetTankFullVisible)

#### 3.1.9. ShowLayer Operator

Declared as private node

#### 3.1.9.1. Interface

**Table 20: Outputs of ShowLayer** 

Name	Туре	Comments and Information
LayerVisible	bool	

#### 3.1.9.2. Operator Hierarchy

<u>diagram</u>: <u>ShowLayer 1</u>

## 3.1.9.3. Graphical and Textual Diagrams

#### 3.1.9.3.1. View of ShowLayer\_1 (ShowLayer)

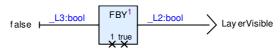


Figure 9: View of ShowLayer\_1 (ShowLayer)

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