



**GLANCE AVIONICS**

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## TECHNICAL NOTE

Products : **Glance EMS-6**  
**Glance EMS-18**

Model : **E010.020**  
**E020.020**

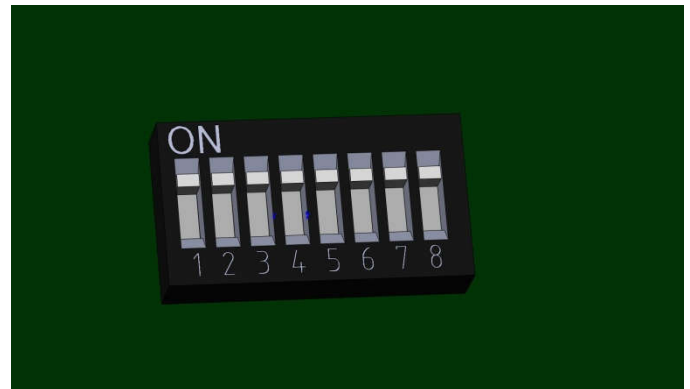
SW Version : **1.1+**

### Engine Monitoring System (Glance EMS) Connection and Configuration

#### INPUTS PULL-UP/ PULL-DOWN CONFIGURATION

Glance EMS modules gives the installer ability to enable or disable pull-up/pull-down resistors by a pin-switch, placed on the top of the module PCB. This ability gives more flexibility without using of any additional external components.

Description of the input configuration.



SW1- Fuel pressure pull-down enb./dis. ON position- pull-down 120 Ohm resistor enabled to use of the 4-20 mA current loop sensor type. OFF position – resistor disabled to use of voltage output 0.5-4.5 V sensor type.

SW2- Oil pressure pull-down enb./dis. ON position- pull-down 120 Ohm resistor enabled to use of the 4-20 mA current loop sensor type. OFF position – resistor disabled to use of voltage output 0.5-4.5 V sensor type.

SW3- ECT pull-up enb./dis. ON position- pull-up 270 Ohm resistor enabled to use of the supported NTC or PT100 sensors. OFF position – resistor disabled to use of any voltage-output sender or to connect secondary EMS unit on the same sensor.

SW4- Oil temperature pull-up enb./dis. ON position- pull-up 270 Ohm resistor enabled to use of the supported NTC or PT100 sensors. OFF position – resistor disabled to use of any voltage-output sender or to connect secondary EMS unit on the same sensor.

SW5- MAT pull-up enb./dis. ON position- pull-up 270 Ohm resistor enabled to use of the supported NTC or PT100 sensors. OFF position – resistor disabled to use of any voltage-output sender or to connect secondary EMS unit on the same sensor.

SW6- Fuel level sensor 1 pull-up enb./dis. ON position- pull-up 270 Ohm resistor enabled to use of the recommended resistive type fuel level senders. OFF position – resistor disabled to use of any voltage-output 0-5 V capacitive fuel level sender or to connect secondary EMS unit on the same sensor.

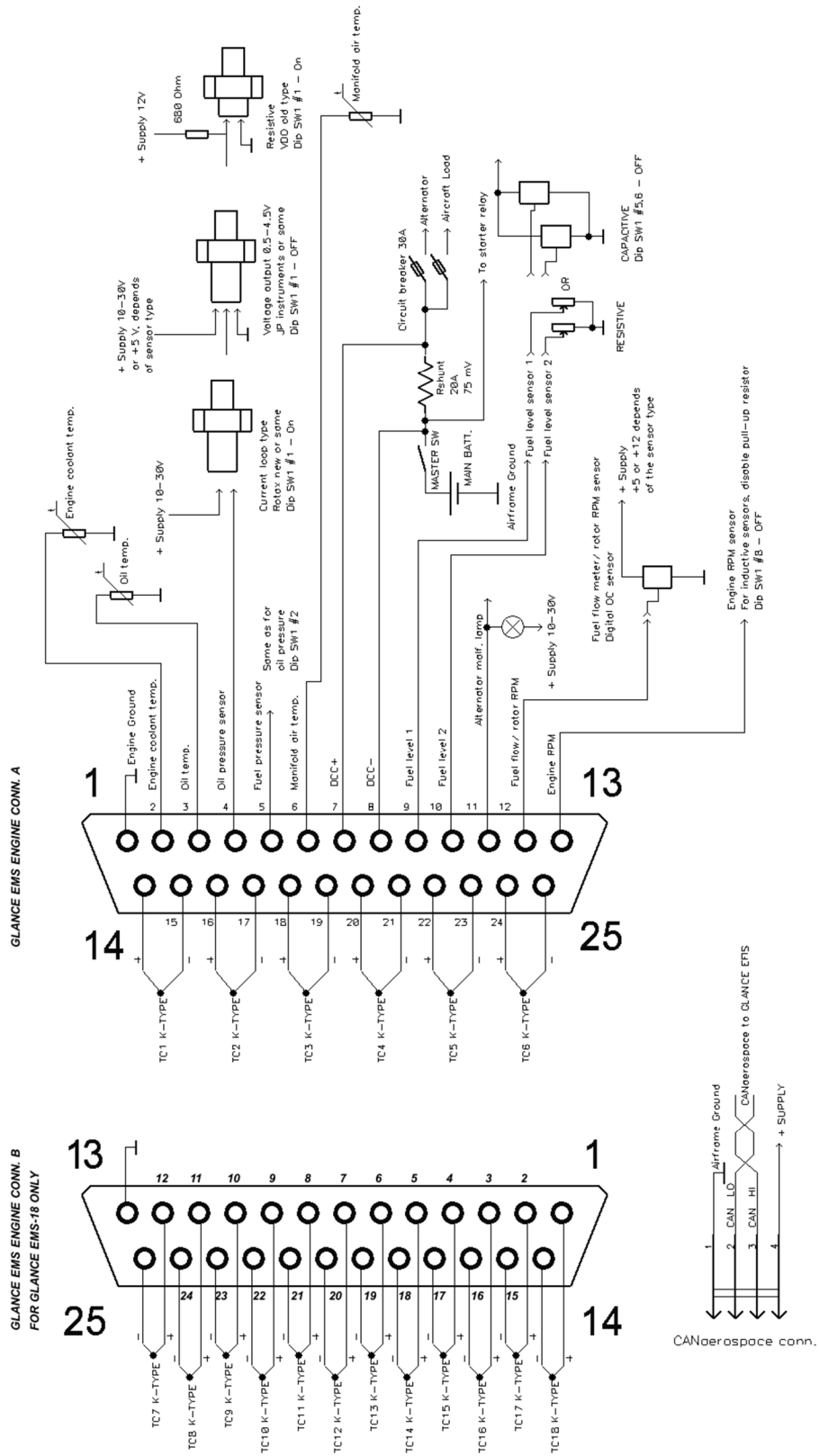
SW7- Fuel level sensor 2 pull-up enb./dis. ON position- pull-up 270 Ohm resistor enabled to use of the recommended resistive type fuel level senders. OFF position – resistor disabled to use of any voltage-output 0-5 V capacitive fuel level sender or to connect secondary EMS unit on the same sensor.

SW8- RPM sensor pull-up enb./dis. ON position- pull-up 820 Ohm resistor enabled to use of the 0-C (or open-drain) type digital RPM sensors. OFF position – resistor disabled to use of any inductive sensor or for a direct low-side magneto connection (4-100 V input signal range).

## Engine Monitoring System Connectors Pinout

Connector A		Connector B (EMS-18 Only)	
<b>1</b>	Engine GND	<b>13</b>	Engine GND
<b>2</b>	Engine coolant temperature (Rst 1)	<b>12</b>	TC 7 +
<b>3</b>	Oil temperature (OILT)	<b>11</b>	TC 8 +
<b>4</b>	Oil pressure (OILP)	<b>10</b>	TC 9 +
<b>5</b>	Fuel pressure (FUELP)	<b>9</b>	TC 10 +
<b>6</b>	MAT	<b>8</b>	TC 11 +
<b>7</b>	DCC +	<b>7</b>	TC 12 +
<b>8</b>	DCC -	<b>6</b>	TC 13 +
<b>9</b>	Fuel tank 1	<b>5</b>	TC 14 +
<b>10</b>	Fuel tank 2	<b>4</b>	TC 15 +
<b>11</b>	Alternator warning (battery charging)	<b>3</b>	TC 16 +
<b>12</b>	Rotor RPM or Fuel flow	<b>2</b>	TC 17 +
<b>13</b>	Engine RPM	<b>1</b>	TC 18 +
<b>14</b>	TC 1 +	<b>25</b>	TC 7 -
<b>15</b>	TC 1 -	<b>24</b>	TC 8 -
<b>16</b>	TC 2 +	<b>23</b>	TC 9 -
<b>17</b>	TC 2 -	<b>22</b>	TC 10 -
<b>18</b>	TC 3 +	<b>21</b>	TC 11 -
<b>19</b>	TC 3 -	<b>20</b>	TC 12 -
<b>20</b>	TC 4 +	<b>19</b>	TC 13 -
<b>21</b>	TC 4 -	<b>18</b>	TC 14 -
<b>22</b>	TC 5 +	<b>17</b>	TC 15 -
<b>23</b>	TC 5 -	<b>16</b>	TC 16 -
<b>24</b>	TC 6 +	<b>15</b>	TC 17 -
<b>25</b>	TC 6 -	<b>14</b>	TC 18 -

# Engine Monitoring System (Glance EMS) Wiring



### Supported EMS Ports Configuration

Connector A		Connector B (EMS-18 Only)	
Pin	Possible Ports Configurations	Pin	Possible Ports Configurations
<b>2</b>	Engine coolant temperature (ECT), Outside air temperature (OAT), 1 <sup>st</sup> Cylinder head temperature (CHT1) (for Rotax sensor)	<b>2, 14</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT
<b>3</b>	Oil temperature (OILT)	<b>3, 15</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT
<b>4</b>	Oil pressure	<b>4, 16</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT
<b>5</b>	Fuel pressure	<b>5, 17</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT
<b>6</b>	Manifold Air Temperature (MAT), OAT	<b>6, 18</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT
<b>7</b>	DCC +	<b>7, 19</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT
<b>8</b>	DCC -	<b>8, 20</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT
<b>9</b>	Fuel tank 1	<b>9, 21</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT
<b>10</b>	Fuel tank 2	<b>10, 22</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT
<b>11</b>	Alternator warning (battery charging)	<b>11, 23</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT
<b>12</b>	Rotor RPM, Fuel flow	<b>12, 24</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT
<b>13</b>	Engine RPM	<b>13, 25</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT
<b>14, 15</b>	CHT 1-9, Exhaust gas temperature (EGT) 1-9, OAT, MAT, OILT, Fuel temperature (FUEL), ECT		
<b>16, 17</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT		
<b>18, 19</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT		
<b>20, 21</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT		
<b>22, 23</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT		
<b>24, 25</b>	CHT 1-9, EGT 1-9, OAT, MAT, OILT, FUEL, ECT		

### Installation Example

