

**-7- المواصفات الفنية للقطع :-**

**-1.7- مواصفات كابينة جهاز التحكم :-**

1.1.7- الأبعاد لا تقل عن التالي :- ( 1 meter × 50 cm × 32 cm )

2.1.7- تكون مقاومة للظروف الجوية

3.1.7- تكون ملائمة للعمل الخارجي (outdoor)

4.1.7- درجة حماية ( IP54 )

5.1.7- مصنوعة من مادة غير قابلة للصدأ

Cabinet: hot Deep galvanized Steel or in press forged Polyester

**-2.7- مواصفات رؤوس الإشارات الضوئية :-**

***TRAFFIC LIGHT SIGNAL HEADS***

**All signal heads shall meet the following as a minimum specification requirements:-**

- 1- Signal head housing shall be made of polycarbonate material
- 2- All aspects of vehicular signal heads shall be supplied with sun visors.
- 3- All signal heads shall be supplied with high flux LED'S lamps (retrofits) of red , yellow and green colors with the following specifications as minimum :-
  - A- Shall be suitable for installation to fit in and interchange with or be replaced with existing traffic light signals heads retrofits and/or signal head housing currently used by MPWH
  - B - Wattage: (less than 15) Wt. Operating voltage: 230 VAC , ±15%
  - C- Illumination unit (Retrofit) shall meet IP 65 protection against ingress of dust and water, signal head housing shall not be less than IP 54 against ingress of water and dust.
  - D- LED's Lamps which may exhibit luminous intensity less than the minimum values specified in the manufacturer's specifications within 36 months of the date of the installation shall be replaced or repaired free of charge .
  - E- Colors and symbols of lamps shall conform to European Standards EN 12368.
  - F- Service life time shall not be less than 2 years .
  - G- Shall be phantom free or meet class 5 for phantom light class
  - H- Shall display visible and very uniform light without presence of any LED dots.

- I- Shall not produce damaging heat to its internal and external components that may cause degradation of signal head components.
  - J- Shall be supplied with light compensation facility in case of LED diode failure, i.e if any diode fails during operation, the unit shall continue to operate with compensated light from other diodes.
4. Color coded cables shall be supplied for each signal head down to the terminal block.
  5. All fixing bolts and screws shall be supplied including screws for mounting signal heads on to poles.
  6. All 300 mm signal heads shall be supplied with aluminum mounting brackets, polycarbonate mounting brackets will be acceptable for mounting 200mm signal heads.
  7. Lumious Intensity shall not be less than 200cd for the 200 mm signal heads and 300cd for the 300 mm signal heads
  8. Tenderer is required to submit compliance list for each and every item listed above.
  10. Parts must be suitable for replacement of existing head.
  11. new type head must be mentioned from tenderer with catalogue to obtain acceptance to be used in new installation

### 3.7- مواصفات أعمدة الإشارات الضوئية :-

#### TRAFFIC LIGHT POLE WITH ARMS (4M & 6M):

1. Hot deep galvanized cylindrical shape steel pole, with 4m or 6m length hot deep galvanized steel arm as per the bill of quantities.
2. Height of end side of the arm shall not be less than 6 meter.
3. Outside diameter for the upper part of the pole shall not be less than 4 inches, thickness shall not be less than 4mm.
4. 40cm x 10cm door opening at 60 cm from the base plate, the door should be flush security closed by means of two hinges and a linkey bolt.

5. 35cm x 35cm base plate, 12mm minimum thickness.
6. Spacing between the base screws opening = 30cm x 30cm or required .
7. Base screws diameter shall not be less than 22mm with galvanized nuts.
8. Lower part shall not be less than 6 inches, thickness not less than 5mm.
9. Bases screws length shall not be less than 70cm.
10. arm should be designed to minimize oscillation and carry the traffic signal head. It also should be closed at the end.
11. welded flange with 2 screws should meet the end of the arm to fix the traffic signal head holder.
12. Signal head holder for each arm should be supplied.

**TRAFFIC LIGHT POLE Upright:**

1. Hot deep galvanized cylindrical shape upright steel pole, 3.5m height
2. Outside diameter of the pole is not less than 4 inches, thickness not less than 3.5mm.
3. 40cm x 10cm door opening at 60 cm from the base plate, the door should be flush security closed by means of two hinges and a linkey bolt.
4. 35cm x 35cm base plate, 10mm minimum thickness.
5. Base screws diameter not less than 18mm, with galvanized nuts.
6. Base screws length not less than 50cm.
7. The pole should be closed at the top.

#### **4.7- الكوابل**

- 1 - أن تكون ذات أسلاك مساحة مقطع (1.5) ملم 2 ذات جودة عالية ولا يسمح بوجود وصلات لهذه الكوابل.
- 2 - أن يكون مقطع سلك الحساس (1) ملم 2

#### **5.7- الكليمنات :-**

أن تكون مصنوعة من مادة ثيرمو بلاستيك بولي أميد وتتحمل درجة حرارة تصل إلى (200) درجة مئوية .

#### **6.7- المناهل :-**

يجب أن تكون أغشية المناهل غاطسة حديد سكب ومن الوزن الوسط مستديرة قطر ( 55سم- 60سم ) وحسب المواصفات المعتمدة وتعليمات المهندس المشرف .

#### **7.7- المواصفات الفنية لجهاز التحكم TRAFFIC LIGHT CONTROLLER :-**

Controller shall meet the following minimum requirements. A detailed compliance statement on every point in the specifications is required. A simple yes or no answer is not accepted. Elaboration on each point is required.

1. The controller shall be equipped with a fault detection local unit with LCD screen to enable maintenance crews to quickly detect faults.
2. Controller shall be fitted and contain with 1 KVA voltage stabilizer.
3. The controller shall be capable of rechecking itself in the event of malfunctions and restarts it automatically in the event of an emergency malfunction, such as a power outage, so that it does not need to be restarted by a person.
4. The controller must be completely manufactured by one of the companies specialized in the field without the need of reassemble the controller locally ( certificate of origin –name plate with production date and serial number)

5. The controller must ensure that the traffic signal is operated efficiently and permanently so that it does not lead to any malfunction, loss of programming, or any defect that affects the safety of the intersection's operation.
6. The controller must be equipped with an online connection service through internet, via a GSM card, or via a modem.
7. Controllers shall be fully wired, configured and equipped to accommodate the required number of signal groups as specified in the bill of quantities. (8 signal groups).
8. Controller shall be wired and equipped with detector card (s) to accommodate the required number of detector loops as per bill of quantities. (4 loop detectors)
9. Controllers shall be of solid-state design with microprocessor control.
10. All electronics shall be modular in design, the electronic modules including detector cards shall be front accessed and rack mounted.
11. Mains supply (230 vac + 10%, 50 hz), distribution of 230-vac supply throughout the cabinet shall not occur until it has first passed through the power Protection devices.
12. Controllers shall have solid-state output switching with three outputs (red/yellow/green) per signal group, which can be programmed for either vehicles or pedestrians. and each output must have Separate fuse for each output in order to easy access for maintenance , Controller output shall be capable of driving a current less than 4 amps
13. Operating temperature: - 10c to + 60c.
14. Controllers shall have conflict-monitor facility that checks green-green conflicts as other possible conflicts.
15. Controllers shall have a lamp monitoring facility on all lamp circuits (red/yellow / green) with the capability of recognizing and reporting lamp failures. The absence of load in any output specified by software shall switch the intersection into flashing mode.

16. Controllers shall have power protection devices with incoming power being filtered to reduce over voltage. The power protection shall include (earth leakage c.b, main c.b, lamps c.b and over voltage protection device).
17. Each output shall be protected against short circuits or over load by easily replaced fuses.
18. Controller shall be equipped with external police panel with the following control facilities:
  - ☐ Manual control to step through the phases manually.
  - ☐ Selection of mode (automatic, manual, flashing and all red).
19. The controller shall provide the means to implement a minimum of 7 stages (phases).
20. The controller shall be provided with a portable handheld unit or Mac pad for local operation, monitoring, and configuration. A total of two (2) units shall be supplied for all controllers covered under this tender.
21. The controller shall have the capability to operate in any of the following modes:
  - ☐ Flashing mode.
  - ☐ All red mode.
  - ☐ Manual mode.
  - ☐ Fixed time mode.
  - ☐ Vehicle & pedestrian actuated mode.
  - ☐ Hurry call mode.
  - ☐ Cable less linking mode.
  - ☐ Control center mode.
  - ☐ Semi actuated mode.
22. The controller shall have mains driven clock and programming facility to control successive signals in green wave (cable less linking). A crystal oscillator should be provided and driven by stand by battery for time synchronization and data associated in the volatile memory with the cable less linking.
23. The controller shall have the facility to operate through a cable link to another controller in master-slave operation.
24. The controller shall be capable to operate within a centrally controlled traffic system.
25. The controller shall have led indicator lamps to indicate signal pattern being displayed at the intersection.

### ملحق عرض المناقصة

المشروع: الخاص بتوريد قطع الإشارات الضوئية التابعة لوزارة الأشغال العامة والإسكان الى مديرية السلامة المرورية  
العطاء رقم :

البيان	التحديدات
اسم صاحب العمل : عنوانه:	وزارة الأشغال العامة والإسكان
اسم المهندس: عنوانه:	مديرية السلامة المرورية
كفالة المناقصة	(1800) دينار
كفالة ضمان خلو المواد من سوء المصنعية (كفالة عدلية)	(115% ) من قيمة العطاء
مدة الإنجاز	( 90 ) يوماً تقويمياً من تاريخ أمر المباشرة
فترة الأشعار بخلو المواد من سوء المصنعية	سنتان(730) يوماً
ضمان الأداء	(10%) من " قيمة العطاء "
قيمة الدفعة المقدمة	(0)
اللغة المعتمدة في العقد	اللغة العربية
لغة الاتصال	اللغة العربية
قيمة غرامة التأخير	(100) دينار عن كل يوم تأخير
الحد الأقصى لقيمة غرامة التأخير	(15%) من قيمة العقد المقبولة
عملات الدفع للمقاول	الدينار الأردني